NOURA TECH

توجـــــه

در صورت غیر فعال بودن دکـــمه‌ها در سیستم عامل اندروید،
حتما اپلیکیشن GoogleDrive خود را به روز رسانی نمایید.

If the buttons are disabled in the Android system,
Be sure to update your Google Drive app.

زبان مـورد نظرتان‌را انتخاب نمایید:

Select **your language:**

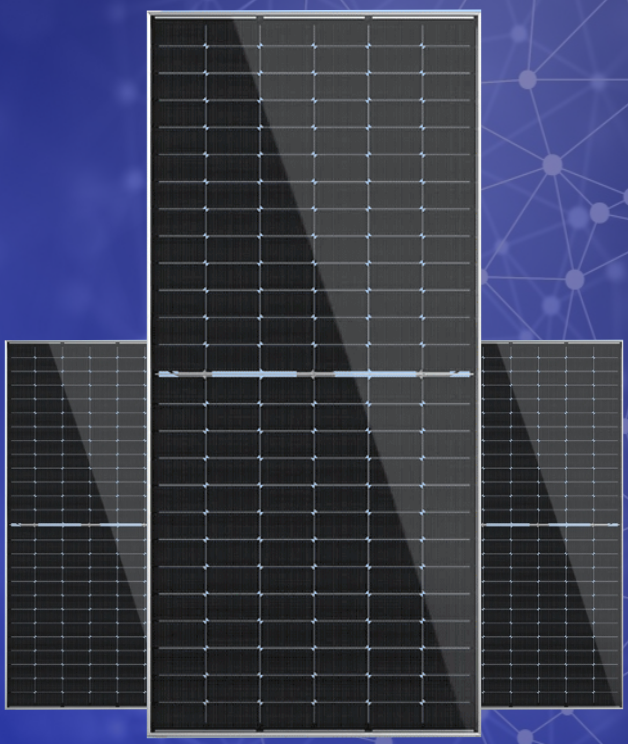
فارســی

English

شروع

شروع

NOURA TECH



درباره ما

محصولات

تماس با ما

Digi-Catalog / 2026

NOURA TECH

شرکت پیشـــــگامان انرژی نوراتک با تکیه بر سرمایه انســـــانی متخصـص و همراهی اساتید برجسـته دانشـگاه های مطرح کشـور، مرجع تخصـــصـــی تامین و ارائه تجهیزات و محصـــولات انرژی خورشیدی در کشور میباشد .
نورا تک با طراحی، مشـــــــاوره و اجرای بیش از ۳۸ مگاوات پروژه نیروگاهی خورشـیدی همچنین تامین و توزیع بیش از ۲۹۰ مگاوات پنل خورشـــیدی و ۲۱۰مگاوات اینورتر از برندهای معتبر جهانی، در زمره بزرگ‌ترین تأمین کنندگان تجهیزات انرژی خورشیدی کشـــور قرار داشته و برای صنایع مختلف، کســب و کارهای متعدد، مجتمع ها و منازل مسـکونی و اداری ، ویلاها و ...، راهکارهای اختصـاصی با بازده بالا ارائه می‌نماید.

- طراحی، مشاوره و اجرای نیروگاه هـای خـورشـیـدی (EPC)
- تامین انواع پنل، اینورتر، استراکچر و باتری لیتیومی (LFP)
- طراحی و اجرای سیستم های Hybrid , Off Grid, On Grid

خلاصه عملکرد سال اخیر:

۲۹۰ MW
حجم تامین و فروش
انواع پنل خورشیدی

۲۱۰ MW
حجم تامین و فروش
انواع اینورتـــــــر

۳۸MW
حجم پـــــروژه‌های
نیروگاهی فتوولتائیک

اعضای مجموعه نوراتک

همکاران استراتژیک و مشتریان ویژه

جوایز و گواهینامه ها

بازگشت

شرکت نوراتک در مسیر تحقق اهداف خود در حوزه انرژی، فناوری و توسعه زیرساخت‌های پایدار، افتخار همکاری با مجموعه‌ای از معتبرترین سازمان‌ها و شرکت‌های کشور را دارد. همکاری‌های راهبردی با نهادهایی همچون ساتبا (سازمان انرژی‌های تجدیدپذیر و بهره‌وری انرژی برق)، ساتکا (انجمن سازندگان و تامین کنندگان کالا و خدمات انرژی های تجدید پذیر) و نیز شرکت لجستیک گلدیران، نقش مهمی در ارتقای کیفیت خدمات، گسترش شبکه تأمین و تسریع در اجرای پروژه‌ها ایفا کرده است. نوراتک این تعاملات را سرمایه‌ای ارزشمند دانسته و مبتنی بر کسب و کار منصفانه، اعتماد متقابل، مسئولیت‌پذیری و خلق ارزش مشترک، توسعه این روابط را دنبال می‌کند.

بازگشت

NOURA TECH


EIQM CERTIFICATION SERVICES

CERTIFICATE

THE MANAGEMENT SYSTEM OF

PISHGAMAN ENERGY NOURA TECH CO.

has been assessed and certified as meeting the requirements of

ISO 10004:2018

Customer satisfaction - Guidelines for monitoring and measuring

FOR THE FOLLOWING ACTIVITIES

Design services, consultancy, and supply of goods
Import and export of authorized goods
Solar Power plant engineering, procurement, and construction

CERTIFICATE REGISTRATION NO.: QMS936804
ORIGINAL CERTIFICATION DATE: FEBRUARY 18, 2026
CURRENT CERTIFICATION DATE: FEBRUARY 18, 2026
CERTIFICATE EXPIRY DATE: FEBRUARY 18, 2029
THIS CERTIFICATE REMAINS VALID SUBJECT TO SATISFACTORY SURVEILLANCE AUDITS.

Authorised Signatory
EIQM Ltd. Certification Services
info@eiqmcert.com

verified

EIQM Ltd. Certification Services is a certification body for assessment of objective evidence and issuance of certificate. this certificate is issued on the basis of the independent authority of the EIQM certification services. we partner with you to offer independent services that will help you, streamline your processes and operate in a more sustainable manner.
The validity of this certificate can be verified at www.eiqmcert.com


EIQM CERTIFICATION SERVICES

CERTIFICATE

THE MANAGEMENT SYSTEM OF

PISHGAMAN ENERGY NOURA TECH CO.

has been assessed and certified as meeting the requirements of

IMS

ISO 9001:2015 , ISO 14001:2015 , ISO 45001:2018

FOR THE FOLLOWING ACTIVITIES

Design services, consultancy, and supply of goods
Import and export of authorized goods
Solar Power plant engineering, procurement, and construction

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CERTIFICATE

THE MANAGEMENT SYSTEM OF

PISHGAMAN ENERGY NOURA TECH CO.

has been assessed and certified as meeting the requirements of

ISO 21500:2021

Guidance on project management

FOR THE FOLLOWING ACTIVITIES

Design services, consultancy, and supply of goods
Import and export of authorized goods
Solar Power plant engineering, procurement, and construction

CERTIFICATE REGISTRATION NO.: QMS936805
ORIGINAL CERTIFICATION DATE: FEBRUARY 18, 2026
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CERTIFICATE

THE MANAGEMENT SYSTEM OF

PISHGAMAN ENERGY NOURA TECH CO.

has been assessed and certified as meeting the requirements of

ISO 10006:2017

Guidelines for quality management in projects

FOR THE FOLLOWING ACTIVITIES

Design services, consultancy, and supply of goods
Import and export of authorized goods
Solar Power plant engineering, procurement, and construction

CERTIFICATE REGISTRATION NO.: QMS936806
ORIGINAL CERTIFICATION DATE: FEBRUARY 18, 2026
CURRENT CERTIFICATION DATE: FEBRUARY 18, 2026
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بازگشت

NOURA TECH


EIQM CERTIFICATION SERVICES

CERTIFICATE

THE MANAGEMENT SYSTEM OF

PISHGAMAN ENERGY NOURA TECH CO.

has been assessed and certified as meeting the requirements of

ISO 45001:2018

Occupational health and safety management system

FOR THE FOLLOWING ACTIVITIES

Design services, consultancy, and supply of goods

Import and export of authorized goods

Solar Power plant engineering, procurement, and construction

CERTIFICATE REGISTRATION NO.: QM5936882

ORIGINAL CERTIFICATION DATE: FEBRUARY 18, 2026

CURRENT CERTIFICATION DATE: FEBRUARY 18, 2026

CERTIFICATE EXPIRY DATE: FEBRUARY 18, 2029

THIS CERTIFICATE REMAINS VALID SUBJECT TO SATISFACTORY SURVEILLANCE AUDITS.

Authorized Signatory
EIQM Ltd. Certification Services
info@eiqmcert.com

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The validity of this certificate can be verified at www.eiqmcert.com


Certificate of Membership

PISHGAMAN ENERGY NOURA TECH


گواهی عضویت

CERTIFICATE OF MEMBERSHIP

بدین وسیله گواهی میشود

شرکت پیشگامان انرژی نورانک

به شماره ثبت۶۲۵۰۴۹ و کد عضویت ۱۴۰۴۰۶۱۵۲

به عضویت انجمن انرژی های تجدیدپذیر ایران (اتاق بازرگانی، صنایع معادن و کشاورزی ایران) پذیرفته شده و از کلیه حقوق و مزایا مربوطه بهره مند است. این گواهی دارای اعتبار یک سال از تاریخ صدور می باشد.

This is to certify that

Pishgaman Energy Noura Tech Company

Registration No.625049 & Membership No.14040152

is the member of IRRENA and has All the related rights and benefits of membership during the period membership. This certificate is valid for one year from the date of issuance.

Date of issue: 6 September 2025

تاریخ صدور: ۱۴۰۴/۰۶/۱۵


EIQM CERTIFICATION SERVICES

CERTIFICATE

THE MANAGEMENT SYSTEM OF

PISHGAMAN ENERGY NOURA TECH CO.

has been assessed and certified as meeting the requirements of

ISO 9001:2015

Quality management system

FOR THE FOLLOWING ACTIVITIES

Design services, consultancy, and supply of goods

Import and export of authorized goods

Solar Power plant engineering, procurement, and construction


SATKA

گواهی عضویت

Certificate of Membership

Noura Tech Co.

بازگشت

NOURA TECH

مدیرعامل: حسام کازری

- دکترای مهندسی برق قدرت، دانشگاه صنعتی شریف
- عضو هیئت علمی دانشگاه علم و صنعت ایران
- پژوهشگر مدعو در دانشگاه Imperial college london
- موسس، سهامدار و مشاور ۳ شرکت دانش بنیان (در صنعت برق و انرژی)

رئیس هیئت مدیره: حامد نجفی

- دکترای اقتصاد، دانشگاه علامه طباطبایی
- مدرس دانشکده مدیریت دانشگاه تهران
- موسس، مدیرعامل و سهامدار شرکت مبنا
- مالک و مجری ۱۴ مگا وات نیروگاه خورشیدی در منطقه ویژه اقتصادی پیام

نایب رئیس هیئت مدیره: عباس خالقی تبار

- دکترای حرفه ای مدیریت بازرگانی، دانشگاه تهران
- مدیر کل برنامه ریزی سازمان توسعه تجارت ایران
- مدیرعامل مرکز آموزش بازرگانی
- رئیس دانشگاه علمی کاربردی بازرگانی
- مدیر گروه دوره DBA مدیریت بازرگانی دانشگاه تهران

بازگشت

NOURA TECH

عضو هیئت مدیره: فاطمه سید صالحی

- دکترای هوش مصنوعی، دانشگاه صنعتی شریف
- پژوهشگر مدعو دانشگاه UC Berkeley
- عضو هیئت علمی دانشگاه شریف
- مشاور همراه اول در حوزه هوش مصنوعی
- مشاور بانک رفاه در حوزه هوش مصنوعی

مدیرفروش: محمد محمدی قهرودی

- کارشناس ارشد مهندسی انرژی تجدید پذیر
- بیش از ۱۵ سال سابقه در حوزه نیروگاههای خورشیدی
- طراح بیش از ۸۰۰ مگا وات نیروگاه خورشیدی
- عضو کمیته تدوین آیین نامه فتوولتائیک ایران

سایر همکاران شرکت :

همکاری با بیش از ۲۳ نفر از مدیران و کارشناسان حرفه ای در حوزه مشاوره، طراحی، تامین، فروش،نصب ،راه‌اندازی و خدمات پس از فروش در کل زنجیره محصولات و تجهیزات خورشیدی

بازگشت

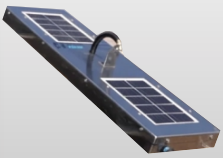
NOURA TECH

محصول مورد نظر را انتخاب کنید

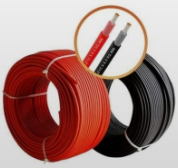
پنل خورشیدی

اینورتر

باتریLFP



حسگر سنجش کارایی



کابل

اکسسوری

استراکچر

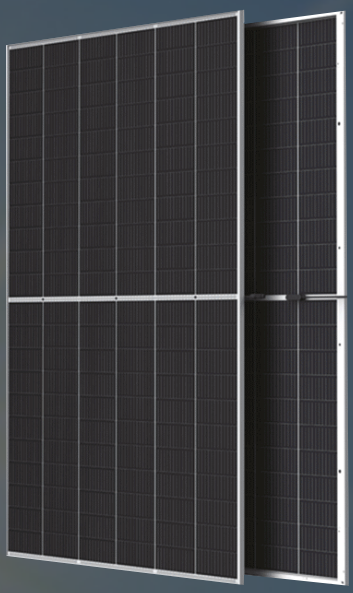
پست کمپکت

به زودی...

تماس با پشتیبانی

بازگشت

NOURA TECH



پنل خورشیدی

برند مورد نظر را انتخاب کنید

JinKO Solar

Trinasolar

تماس با پشتیبانی

بازگشت

سری مورد نظر را انتخاب کنید

- نیروگاهی / ۷۰۰+W
- صنعتی / ۶۰۰+W
- خانگی /۴۰۰+W

تماس با پشتیبانی

بازگشت

NOURA TECH

JinKO Solar

Tiger Bifacial
450-470 Watt

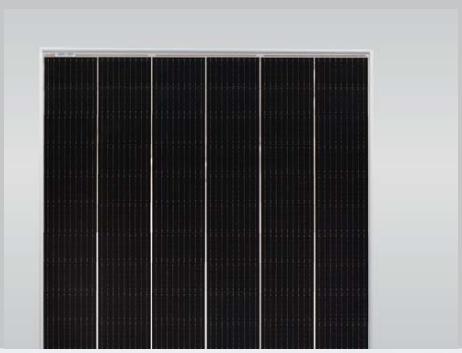
Tiling Ribbon (TR) Technology

Positive power tolerance of 0~+3%

ISO9001:2015, ISO14001:2015, ISO45001:2018 certified factory

IEC61215, IEC61730 certified product

N-Type



PV CYCLE · TÜVRheinland CERTIFIED · CE

POSITIVE QUALITY™ Continuous Quality Assurance · CLEAN ENERGY COUNCIL MEMBER

KEY FEATURES

TR technology + Half Cell
TR technology with Half cell aims to eliminate the cell gap to increase module efficiency (mono-facial up to 20.65%)

Low Light Induced Degradation
The N-type cell shows extremely low light induced degradation (LID) performance when comparing with the P-type cell.

9BB instead of 5BB
9BB technology decreases the distance between bus bars and finger grid line which is benefit to power increase.

Higher lifetime Power Yield
1% first year degradation,
0.4% linear degradation

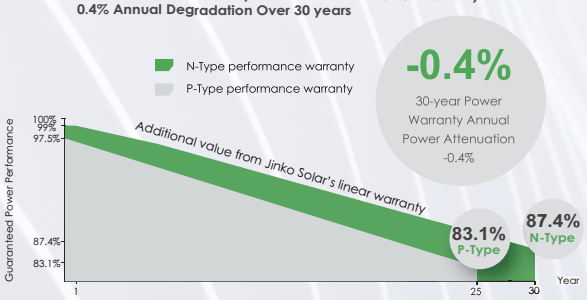
Best Warranty
15 year product warranty,
30 year linear power warranty

Better low-light performance
Excellent performance in low-light environments
(e.g. early morning, dusk, and cloud, etc.)

Severe Weather Resilience
Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).

LINEAR PERFORMANCE WARRANTY

15 Year Product Warranty 30 Year Linear Power Warranty
0.4% Annual Degradation Over 30 years



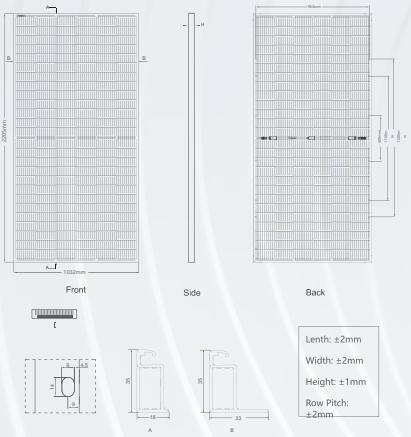
بازگشت

ادامه اطلاعات فنی

NOURA TECH

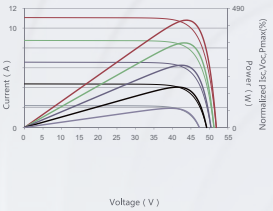
JinKO Solar

Engineering Drawings



Electrical Performance & Temperature Dependence

Current-Voltage & Power-Voltage Curves (460W)



Temperature Dependence of Isc,Voc,Pmax

Mechanical Characteristics

Cell Type	N type Mono-crystalline
No.of cells	156 (2×78)
Dimensions	2205×1032×35mm (86.81×40.63×1.38 inch)
Weight Front	25.0 kg (55.12 lbs)
Glass	3.2mm,Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP67 Rated
Output Cables	TUV 1×4.0mm² (+): 250mm , (-): 150 mm or CustomizedLength

Packaging Configuration

(Two pallets = One stack)

31pcs/pallets, 62pcs/stack, 620pcs/ 40'HQ Container

SPECIFICATIONS

Module Type	JKM450N-7RL3-TV		JKM455N-7RL3-TV		JKM460N-7RL3-TV		JKM465N-7RL3-TV		JKM470N-7RL3-TV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	450Wp	336Wp	455Wp	339Wp	460Wp	343Wp	465Wp	347Wp	470Wp	350Wp
Maximum Power Voltage (Vmp)	43.48V	40.04V	43.54V	40.15V	43.60V	40.26V	43.66V	40.36V	43.72V	40.47V
Maximum Power Current (Imp)	10.35A	8.38A	10.45A	8.45A	10.55A	8.52A	10.65A	8.59A	10.75A	8.66A
Open-circuit Voltage (Voc)	51.70V	48.80V	51.80V	48.89V	51.90V	48.99V	52.00V	49.08V	52.10V	49.18V
Short-circuit Current (Isc)	11.07A	8.94A	11.16A	9.01A	11.25A	9.09A	11.34A	9.16A	11.43A	9.23A
Module Efficiency STC (%)	19.78%		20.00%		20.21%		20.43%		20.65%	
Operating Temperature(℃)	-40℃~+85℃									
Maximum system voltage	1500VDC (IEC)									
Maximum series fuse rating	25A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.34%/℃									
Temperature coefficients of Voc	-0.28%/℃									
Temperature coefficients of Isc	0.048%/℃									
Nominal operating cell temperature (NOCT)	45±2℃									
Refer. Bifacial Factor	85±5%									

BIFACIAL OUTPUT-REARSIDE POWER GAIN

5%	Maximum Power (Pmax)	473Wp	478Wp	483Wp	488Wp	494Wp
	Module Efficiency STC (%)	20.76%	20.99%	21.23%	21.46%	21.69 %
15%	Maximum Power (Pmax)	518Wp	523Wp	529Wp	535Wp	541Wp
	Module Efficiency STC (%)	22.74%	22.99%	23.25%	23.50%	23.75 %
30%	Maximum Power (Pmax)	585Wp	592Wp	598Wp	605Wp	611Wp
	Module Efficiency STC (%)	25.71%	25.99%	26.28%	26.56%	26.85 %

*STC: Irradiance 1000W/m² Cell Temperature 25°C AM=1.5

NOCT: Irradiance 800W/m² Ambient Temperature 20°C AM=1.5 Wind Speed 1m/s

Power measurement tolerance: ± 3%

The company reserves the final right for explanation on any of the information presented hereby. TR JKM450-470N-7RL3-TV-A1.1-EN

بازگشت

تماس با پشتیبانی

NOURA TECH

JinKO Solar

TIGER Neo

66HL4M-BDV

605-630 Watt

BIFACIAL MODULE WITH DUAL GLASS

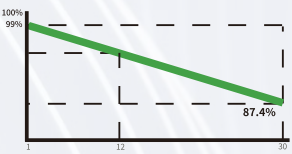
N-type

N-Type Technology

N-Type modules with Tunnel Oxide Passivating Contacts (TOPcon) technology offer lower LID/LeTID degradation and better low light performance.

HOT 3.0 Technology

N-type modules with JinkoSolar's HOT 3.0 technology offer better reliability and efficiency.



12 Year Product Warranty | **30** Year Linear Power Warranty | **1**% First-year Degradation | **0.40**% Annual Degradation Over 30 Years

Dual-Sided Power Generation

Dual-sided power generation gain increases with backside exposure to light, significantly reducing LCOE.

Mechanical Load Enhanced

Certified to withstand:
5400 Pa front side max static test load
2400 Pa rear side max static test load

- IEC61215:2021 / IEC61730:2023
- IEC61701 / IEC62716 / IEC60068 / IEC62804
- ISO9001:2015: Quality Management System
- ISO14001:2015: Environment Management System
- ISO45001:2018: Occupational health and safety management systems

SMBB Technology

Better light trapping and current collection to improve module power output and reliability.

Anti-PID Guarantee

Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control.

JKM605-630N-66HL4M-BDV-F3-EN

ادامه اطلاعات فنی

بازگشت

NOURA TECH

JinKO Solar

Mechanical Characteristics

Cell Type	N- type Mono-crystalline
No. of cells	132（66×2）
Dimensions	2382×1134×30 mm
Weight	32.4 kg
Front Glass	2.0 mm, Anti-reflection Coating
Back Glass	2.0 mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Protection Class	Class II
IEC Fire Type	Class C
Connector Type	JK03M/MC4/Others
Output Cables	4.0 mm² (+): 400 mm , (-): 200 mm or Customized Length

Packaging Configuration

Pallet Dimentions	2396×1110×1251mm
Packing Detail (Two pallets = One stack)	36 pcs/pallets, 72 pcs/stack, 720 pcs/ 40'HQ Container

Specifications (STC)

Maximum Power - Pmax [Wp]	605	610	615	620	625	630
Maximum Power Voltage - Vmp [V]	40.31	40.46	40.60	40.74	40.88	41.02
Maximum Power Current - Imp [A]	15.01	15.08	15.15	15.22	15.29	15.36
Open-circuit Voltage - Voc [V]	48.48	48.68	48.88	49.08	49.28	49.48
Short-circuit Current - Isc [A]	15.90	15.96	16.02	16.08	16.14	16.20
Module Efficiency STC [%]	22.40	22.58	22.77	22.95	23.14	23.32
Power Tolerance	0 ~ + 3 %					
Temperature Coefficients of Pmax	-0.29 %/°C					
Temperature Coefficients of Voc	-0.25 %/°C					
Temperature Coefficients of Isc	0.045 %/°C					

STC: Irradiance 1000W/m², Cell Temperature 25°C, AM=1.5

Specifications (BNPI)

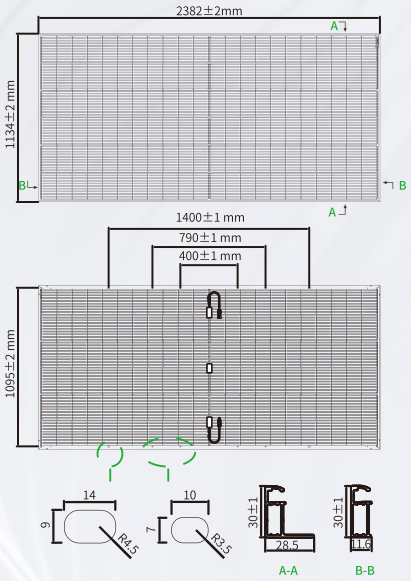
Maximum Power - Pmax [Wp]	668	674	679	685	690	696
Maximum Power Voltage - Vmp [V]	40.29	40.46	40.59	40.75	40.88	41.04
Maximum Power Current - Imp [A]	16.58	16.66	16.73	16.81	16.88	16.95
Open-circuit Voltage - Voc [V]	48.46	48.66	48.86	49.06	49.26	49.46
Short-circuit Current - Isc [A]	17.56	17.64	17.70	17.77	17.83	17.90

BNPI: Irradiance: front 1000W/m², rear 135W/m², Cell Temperature 25°C, AM=1.5

Application Conditions

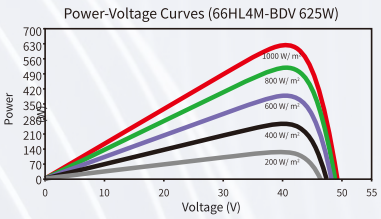
Operating Temperature	-40 °C ~ +70 °C
Maximum System Voltage	1500 VDC (IEC)
Maximum Series Fuse Rating	35 A
Bifaciality Coefficent	φVoc: 98±5 %, φIsc: 80±5 %, φPmax: 80±5 %

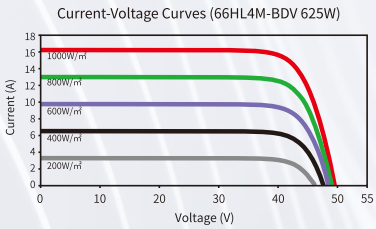
Engineering Drawings



Note: For specific dimensions and tolerance ranges, please refer to the corresponding detailed module drawings.

Electrical Performance





بازگشت

تماس با پشتیبانی

NOURA TECH

JinKO Solar

TIGER Neo

66HL5-BDV

710-735 Watt

BIFACIAL MODULE WITH DUAL GLASS

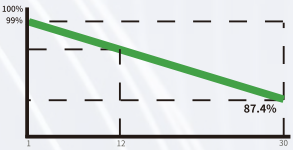
N-type

N-type Technology

N-type modules with Tunnel Oxide Passivating Contacts (TOPCon) technology offer lower LID/LeTID degradation and better low light performance.

HOT 3.0 Technology

N-type modules with JinkoSolar's HOT 3.0 technology offer better reliability and efficiency.



12 Year Product Warranty | **30** Year Linear Power Warranty | **1**% First-year Degradation | **0.40**% Annual Degradation Over 30 Years

Dual-Sided Power Generation

Dual-sided power generation gain increases with backside exposure to light, significantly reducing LCOE.

Mechanical Load Enhanced

Certified to withstand:
5400 Pa front side max static test load
2400 Pa rear side max static test load

- IEC61215:2021 / IEC61730:2023
- IEC61701 / IEC62716 / IEC60068 / IEC62804
- ISO9001:2015: Quality Management System
- ISO14001:2015: Environment Management System
- ISO45001:2018: Occupational health and safety management systems

SMBB Technology

Better light trapping and current collection to improve module power output and reliability.

Anti-PID Guarantee

Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control.

JKM710-735N-66HL5-BDV-Z3-EN

بازگشت

ادامه اطلاعات فنی

NOURA TECH

JinKO Solar

Mechanical Characteristics

Cell Type	N- type Mono-crystalline
No. of cells	132（66×2）
Dimensions	2384×1303×33 mm
Weight	37.5 kg
Front Glass	2.0 mm, Anti-Reflection Coating
Back Glass	2.0 mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Protection Class	Class II
IEC Fire Type	Class C
Connector Type	JK03M/JK03M2/Others*
Output Cables (Including Connector)	4.0 mm^2 (+): 400 mm , (-): 200 mm or Customized Length

* MC4 and MC4-EVO2 available upon request and subject to availability

Packaging Configuration

Pallet Dimensions	1325×1121×2496 mm
Packing Detail (Two pallets = One stack)	33 pcs/pallets, 594 pcs/ 40'HQ Container

Specifications (STC)

Maximum Power - Pmax [Wp]	710	715	720	725	730	735
Maximum Power Voltage - Vmp [V]	40.65	40.77	40.89	41.00	41.11	41.23
Maximum Power Current - Imp [A]	17.47	17.54	17.61	17.69	17.76	17.83
Open-circuit Voltage - Voc [V]	48.73	48.88	49.04	49.20	49.36	49.52
Short-circuit Current - Isc [A]	18.53	18.60	18.67	18.74	18.81	18.88
Module Efficiency STC [%]	22.86	23.02	23.18	23.34	23.50	23.66
Power Tolerance	0 ~ + 3 %					
Temperature Coefficient of Pmax	-0.29 %/°C					
Temperature Coefficient of Voc	-0.25 %/°C					
Temperature Coefficient of Isc	0.045 %/°C					

STC: Irradiance 1000W/m^2, Cell Temperature 25°C, AM=1.5

Specifications (BNPI)

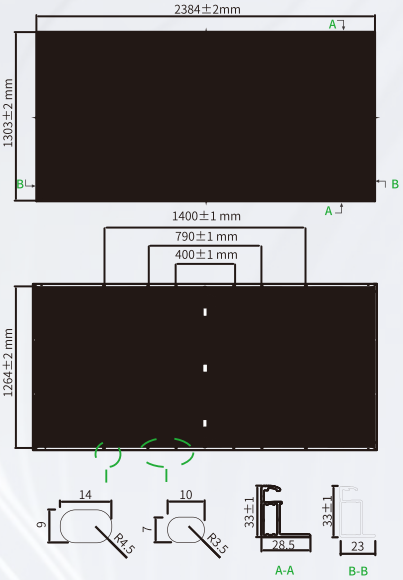
Maximum Power - Pmax [Wp]	784	790	795	800	805	810
Maximum Power Voltage - Vmp [V]	40.66	40.80	40.92	41.03	41.14	41.25
Maximum Power Current - Imp [A]	19.28	19.36	19.43	19.50	19.57	19.64
Open-circuit Voltage - Voc [V]	48.72	48.85	48.99	49.12	49.25	49.38
Short-circuit Current - Isc [A]	20.48	20.55	20.63	20.71	20.79	20.87

BNPI: Irradiance: front 1000W/m^2, rear 135W/m^2, Cell Temperature 25°C, AM=1.5

Application Conditions

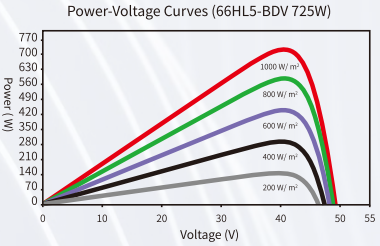
Operating Temperature	-40 °C ~ +70 °C
Maximum System Voltage	1500 VDC (IEC)
Maximum Series Fuse Rating	35 A
Bifaciality Coefficents	φVoc: 98±5 %, φIsc: 80±5 %, φPmax: 80±5 %

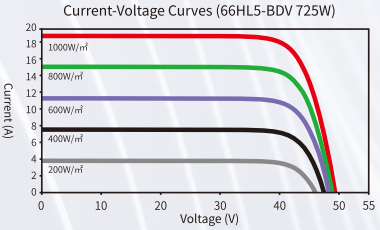
Engineering Drawings



*Note: For specific dimensions and tolerance ranges, please refer to the corresponding detailed module drawings.

Electrical Performance





بازگشت

تماس با پشتیبانی

سری مورد نظر را انتخاب کنید

- نیروگاهی / ۷۰۰+W
- صنعتی / ۶۰۰+W
- خانگی /۴۰۰+W

تماس با پشتیبانی

بازگشت

NOURA TECH

Trinasolar

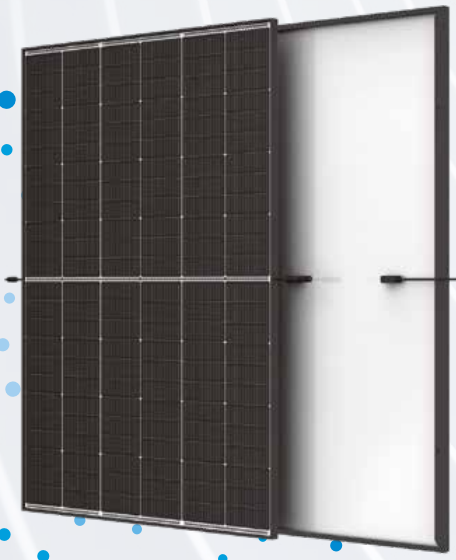
Vertex S+

DUAL GLASS N type i-TOPCon MODULE

PRODUCT: TSM-NEG9R.28

POWER RANGE: 425-450 W

450 W	0/+5 W	22.5 %
MAXIMUM POWER OUTPUT	POSITIVE POWER TOLERANCE	MAXIMUM EFFICIENCY



Small in size, bigger on power

- Generates up to 450 W, 22.5 % module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping, lower series resistance, improved current collection and enhanced reliability
- Reduces installation cost with higher power bin and efficiency

Dual-glass Design, High Reliability

- Excellent fire rating and resistance to harsh environmental conditions
- 5,400 Pa snow load and 4,000 Pa wind load (test loads)

Maximize Energy Harvest

- Up to 25 years product warranty and 30 years power warranty
- 1 % first-year degradation and 0.4 % annual degradation enabled by N-type technology

Universal solution for residential and C&I rooftops

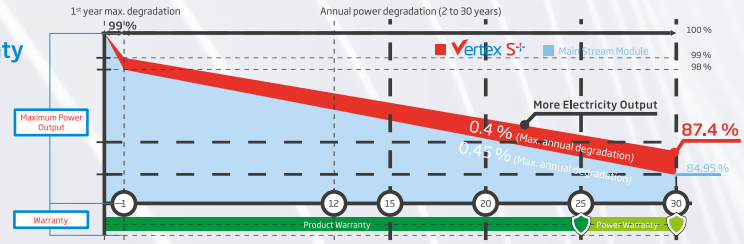
- Designed for compatibility with existing mainstream inverters, optimizers and mounting systems
- Perfect size and low weight for easy handling. Optimized transportation cost
- Flexible installation solutions for system deployment

Extended Vertex S+ Warranty

1 %
1st year max. degradation

0.4 %
Max. annual degradation from year 2 to 30

25 Years
Product Workmanship Warranty



بازگشت

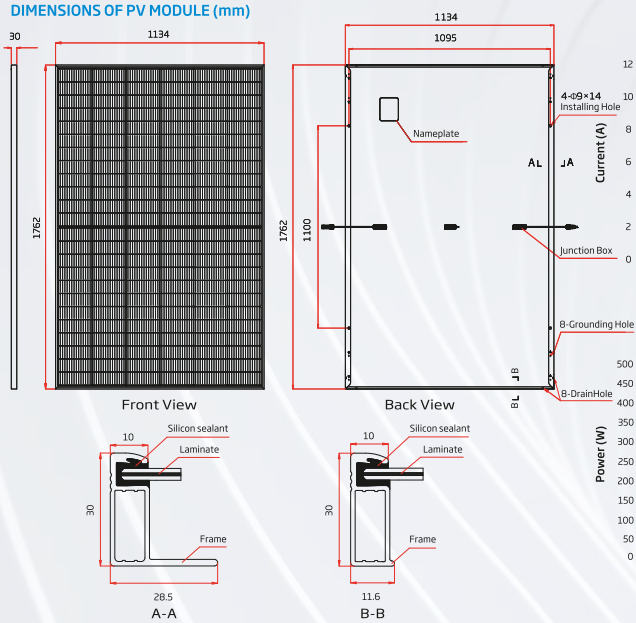
ادامه اطلاعات فنی

NOURA TECH

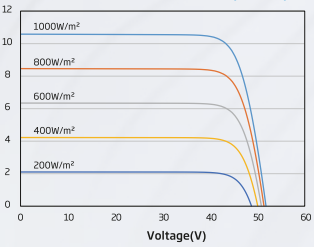
Trinasolar

Vertex S+

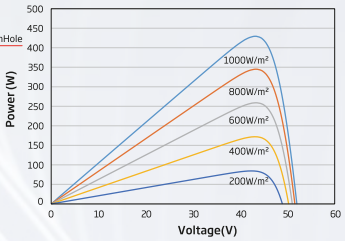
DIMENSIONS OF PV MODULE (mm)



I-V CURVES OF PV MODULE (440 W)



P-V CURVES OF PV MODULE (440 W)



ELECTRICAL DATA (STC)

	TSM-425 NEG9R.28	TSM-430 NEG9R.28	TSM-435 NEG9R.28	TSM-440 NEG9R.28	TSM-445 NEG9R.28	TSM-450 NEG9R.28
Peak Power Watts-PMAX (Wp)*	425	430	435	440	445	450
Power Tolerance-PMAX (W)	0/+5					
Maximum Power Voltage-VMPP (V)	42.9	43.2	43.6	44.0	44.3	44.6
Maximum Power Current-IMPP (A)	9.92	9.96	9.99	10.01	10.05	10.09
Open Circuit Voltage-VOC (V)	50.9	51.4	51.8	52.2	52.6	52.9
Short Circuit Current-ISC (A)	10.56	10.59	10.64	10.67	10.71	10.74
Module Efficiency η m (%)	21.3	21.5	21.8	22.0	22.3	22.5

STC: Irradiance 1000 W/m², Cell Temperature 25 °C, Air Mass AM 1.5. *Measuring tolerance: ±3 %.

ELECTRICAL DATA (NOCT)

	TSM-425 NEG9R.28	TSM-430 NEG9R.28	TSM-435 NEG9R.28	TSM-440 NEG9R.28	TSM-445 NEG9R.28	TSM-450 NEG9R.28
Maximum Power-PMAX (Wp)	324	328	332	335	339	343
Maximum Power Voltage-VMPP (V)	40.0	40.4	40.7	41.0	41.3	41.6
Maximum Power Current-IMPP (A)	8.09	8.11	8.15	8.17	8.20	8.24
Open Circuit Voltage-VOC (V)	48.2	48.7	49.1	49.4	49.8	50.1
Short Circuit Current-ISC (A)	8.51	8.53	8.57	8.60	8.63	8.65

MECHANICAL DATA

Solar Cells	Monocrystalline
No. of cells	144 cells
Module Dimensions	1762×1134×30 mm
Weight	21.0 kg
Front Glass	1.6 mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	POE/EVA
Back Glass	1.6 mm, Heat Strengthened Glass
Frame	30 mm Anodized Aluminium Alloy, Black
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0 mm² Landscape: 1100/1100 mm Portrait: 280/350 mm*
Connector	TS4 / MC4 EVO2*

*Special order only

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43 °C (±2 K)
Temperature Coefficient of PMAX	-0.30 %/ K
Temperature Coefficient of VOC	-0.24 %/ K
Temperature Coefficient of ISC	0.04 %/ K

MAXIMUM RATINGS

Operational Temperature	-40 to +85 °C
Maximum System Voltage	1500 V DC (IEC)
Max Series Fuse Rating	20 A

WARRANTY

25 year Product Workmanship Warranty

30 year Power Warranty

1 % first year degradation

0.4 % Annual Power Attenuation

PACKAGING CONFIGURATION

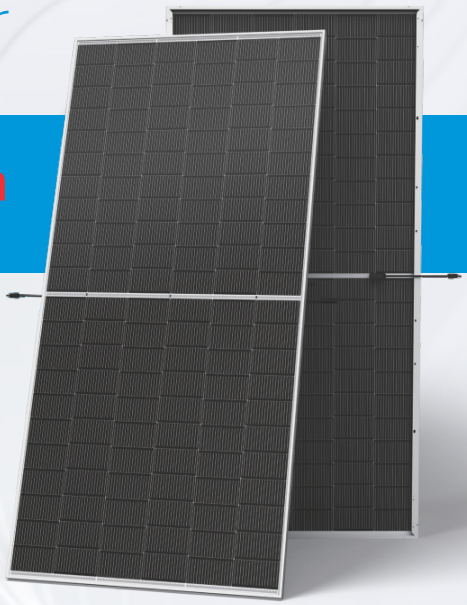
Modules per box:	36 pieces
Modules per 40ft container:	936 pieces

بازگشت

تماس با پشتیبانی

NOURA TECH

Vertex N Trinasolar



N-type i-TOPCon Ultra

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

TSM-NEG19RC.20 **620-645W**

645W / MAXIMUM POWER OUTPUT

23.9% / MAXIMUM EFFICIENCY

High customer value

- Best partner of 1P tracker, with highest utilization of tracker length
- Low voltage design with higher string power, effectively reducing BOS (Balance of System) and LCOE (Levelized Cost of Energy) by 1%~5%
- Standardized module size with higher container space utilization effectively reduces the freight cost
- Excellent compatibility with existing mainstream system components
- Certified Low-Carbon Footprint

High power up to 645W

- Up to 23.9% module efficiency , on 210 innovation platform
- Patented i-TOPCon technology with continuous efficiency upgrade, including contact resistance reduction, rear reflection enhancement and edge quality repairment

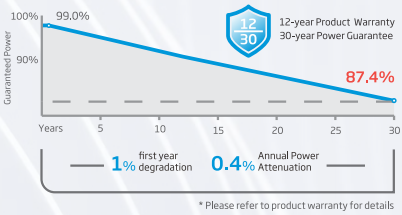
High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology and high-density packaging
- Reduced risks of hot-spot with half-cut technology
- Certified high resistance against salt, ammonia, sand, PID, LID, LeTID
- Sustainable in harsh environments and extreme weather conditions

High energy yield

- Excellent low irradiation performance, validated by 3rd party
- Lower temperature coefficient (-0.29%/°C)
- Higher bifaciality, with up to 10%~20% additional power gain from back side depending on albedo
- Reliable dual-glass structure with 30-year power guarantee

Performance Warranty



* Please refer to product warranty for details

Comprehensive Products and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716/UL61730
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupational Health and Safety Management System
ISO14067: Product Carbon Footprint Limited Assurance

بازگشت

ادامه اطلاعات فنی

NOURA TECH

Trinasolar

ELECTRICAL DATA (STC & NOCT & BNPI)

Testing Condition	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI
Peak Power Watts-PMAX(Wp)*	620	473	687	625	477	692	630	481	698	635	487	704	640	489	709	645	492	715
Power Selection (W)**	0 ~ +5																	
Maximum Power Voltage-VMPP (V)	40.24	37.90	40.24	40.46	38.10	40.46	40.68	38.30	40.68	40.80	38.60	40.80	41.06	38.70	41.06	41.22	38.80	41.22
Maximum Power Current-IMPP (A)	15.41	12.47	17.07	15.45	12.52	17.12	15.49	12.57	17.16	15.55	12.60	17.23	15.60	12.67	17.28	15.65	12.70	17.34
Open Circuit Voltage-Voc (V)	48.50	46.10	48.50	48.70	46.30	48.70	48.90	46.50	48.90	49.10	46.60	49.10	49.30	46.80	49.30	49.52	47.00	49.52
Short Circuit Current-Isc (A)	16.26	13.10	18.02	16.32	13.15	18.08	16.38	13.20	18.15	16.44	13.25	18.22	16.51	13.30	18.29	16.55	13.33	18.34
Module Efficiency η m (%)	23.0			23.1			23.3			23.5			23.7			23.9		

STC: Irradiance 1000W/m2, Cell Temperature 25℃, Air Mass AM1.5. NOCT: Irradiance at 800W/m², Ambient Temperature 20℃, Wind Speed 1m/s. BNPI: Irradiance: front 1000W/m², rear 135W/m², Temperature 25℃, Air Mass AM1.5
*Measuring tolerance: ±3%. **Power selection up to: +3%.

Electrical characteristics with different power bin (reference to 5% & 10% backside power gain)

Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Peak Power Watts-PMAX(Wp)	651	682	656	688	662	693	667	699	672	704	677	710
Maximum Power Voltage-VMPP (V)	40.24	40.24	40.46	40.46	40.68	40.68	40.80	40.80	41.06	41.06	41.22	41.22
Maximum Power Current-IMPP (A)	16.18	16.95	16.22	17.00	16.26	17.04	16.33	17.11	16.38	17.16	16.43	17.22
Open Circuit Voltage-Voc (V)	48.50	48.50	48.70	48.70	48.90	48.90	49.10	49.10	49.30	49.30	49.52	49.52
Short Circuit Current-Isc (A)	17.07	17.89	17.14	17.95	17.20	18.02	17.26	18.08	17.34	18.16	17.38	18.21

Power Bifaciality:80±5%.

TEMPERATURE RATINGS

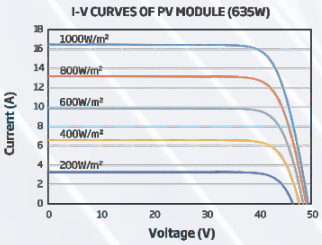
NOCT(Nominal Operating Cell Temperature)	43℃ (±2℃)
Temperature Coefficient of PMAX	- 0.29% /℃
Temperature Coefficient of Voc	- 0.24% /℃
Temperature Coefficient of Isc	0.04% /℃

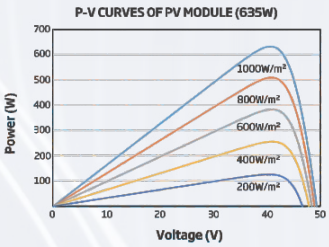
Due to different testing methods, the actual performances might differ from the declared specifications.

MAXIMUM RATINGS

Operational Temperature	-40~+85℃
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)
Max Series Fuse Rating	35A

CURVES OF PV MODULE

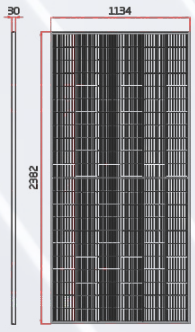




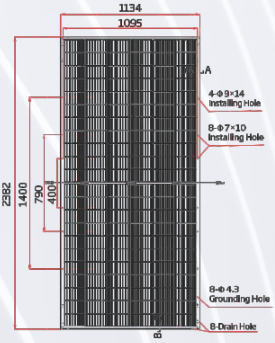
MECHANICAL DATA

Solar Cells	N-type i-TOPCon Monocrystalline
No. of cells	132 cells
Module Dimensions	2382×1134×30 mm (93.78×44.65×1.18 inches)
Weight	33.0 kg (72.8 lb)
Front Glass	2.0 mm (0.08 inches), AR Coating Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Coating)
Frame	30mm(1.18 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²) Portrait: 350/280 mm(13.78/11.02 inches) Length can be customized
Connector	MC4 EVO2 / TS4 Plus / TS4*
Packaging	Modules per box: 36 pieces Modules per 40ftcontainer: 720 pieces

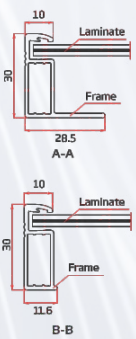
*Please refer to regional datasheet for specified connector.



Front View



Back View

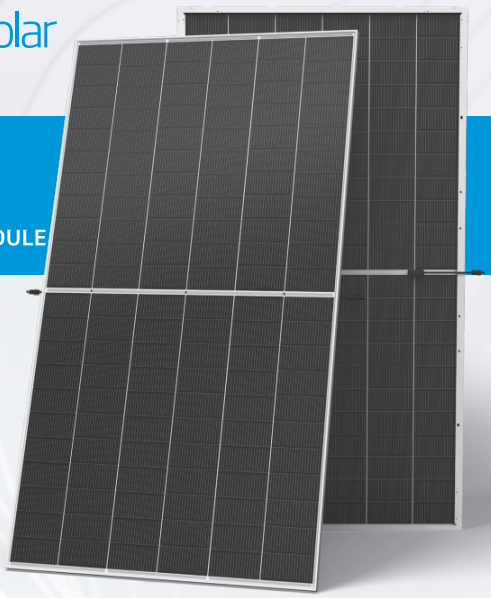


بازگشت

تماس با پشتیبانی

NOURA TECH

Vertex N Trinasolar



N-type i-TOPCon

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

TSM-NEG21C.20 **700-725W**

725W / MAXIMUM POWER OUTPUT

23.3% / MAXIMUM EFFICIENCY

High customer value

- Standardized module size with flagship module power, 35W higher compared with conventional technology
- Low voltage design with higher string power, effectively reducing BOS (Balance of System) and LCOE (Levelized Cost of Energy) by 2%~6%
- Higher container space utilization effectively reduces the freight cost
- Certified Low-Carbon Footprint
- The Star of LCOE

High power up to 725W

- Up to 23.3% module efficiency , on 210 innovation platform
- Patented i-TOPCon technology with continuous efficiency improvement, including contact resistance reduction, rear reflection enhancement and edge quality repairment

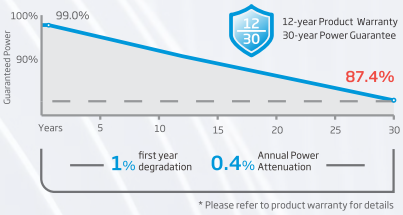
High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology and high-density packaging
- Reduced risks of hot-spot with half-cut technology
- Certified high resistance against salt, ammonia, sand, PID, LID, LeTID
- Sustainable in harsh environments and extreme weather conditions

High energy yield

- Excellent low irradiation performance, validated by 3rd party
- Lower temperature coefficient (-0.29%/°C)
- Higher bifaciality, with up to 10%~20% additional power gain from back side depending on albedo
- Reliable dual-glass structure with 30-year power guarantee

Performance Warranty



* Please refer to product warranty for details

Comprehensive Products and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupational Health and Safety Management System
ISO14067: Product Carbon Footprint Limited Assurance

بازگشت

ادامه اطلاعات فنی

NOURA TECH

Trinasolar

ELECTRICAL DATA (STC & NOCT & BNPI)

Testing Condition	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI
Peak Power Watts-PMAX(Wp)*	700	534	776	705	540	781	710	543	787	715	547	792	720	551	798	725	555	801
Power Selection (W)**	0 ~ +5																	
Maximum Power Voltage-VMPP (V)	40.5	38.0	40.5	40.7	38.3	40.7	40.9	38.5	40.9	41.1	38.7	41.1	41.3	38.8	41.3	41.5	39.0	41.5
Maximum Power Current-IMPP (A)	17.29	14.04	19.15	17.33	14.08	19.19	17.36	14.12	19.23	17.40	14.14	19.28	17.44	14.19	19.32	17.47	14.23	19.36
Open Circuit Voltage-Voc (V)	48.6	46.1	48.6	48.8	46.3	48.8	49.0	46.5	49.0	49.2	46.7	49.2	49.4	46.9	49.4	49.6	47.1	49.6
Short Circuit Current-Isc (A)	18.32	14.76	20.30	18.36	14.80	20.34	18.40	14.83	20.39	18.44	14.86	20.43	18.49	14.90	20.49	18.54	14.94	20.54
Module Efficiency η m (%)	22.5			22.7			22.9			23.0			23.2			23.3		

STC: Irradiance 1000W/m2, Cell Temperature 25°C, Air Mass AM1.5. NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s. BNPI: Irradiance: front 1000W/m², rear 135W/m², Temperature 25
*Measuring tolerance: ±3%. **Power selection up to: +3%.

Electrical characteristics with different power bin (reference to 5% & 10% backside power gain)

Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Peak Power Watts-PMAX(Wp)	735	770	740	776	746	781	751	787	756	792	761	798
Maximum Power Voltage-VMPP (V)	40.5	40.5	40.7	40.7	40.9	40.9	41.1	41.1	41.3	41.3	41.5	41.5
Maximum Power Current-IMPP (A)	18.15	19.02	18.20	19.06	18.23	19.10	18.27	19.14	18.31	19.18	18.34	19.22
Open Circuit Voltage-Voc (V)	48.6	48.6	48.8	48.8	49.0	49.0	49.2	49.2	49.4	49.4	49.6	49.6
Short Circuit Current-Isc (A)	19.24	20.15	19.28	20.20	19.32	20.24	19.36	20.28	19.41	20.34	19.47	20.39

Power Bifaciality:80±5%.

TEMPERATURE RATINGS

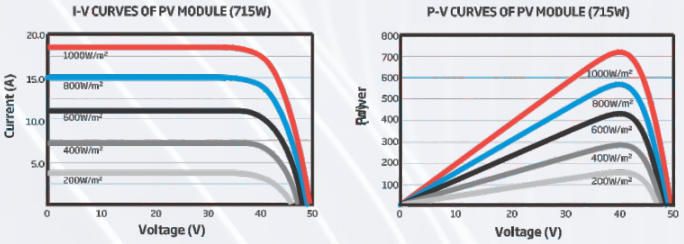
NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of PMAX	- 0.29% /°C
Temperature Coefficient of Voc	- 0.24% /°C
Temperature Coefficient of Isc	0.04% /°C

Due to different testing methods, the actual performances might differ from the declared specifications.

APPLICATION CONDITIONS

Operating Temperature	-40~+70°C
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)
Max Series Fuse Rating	35A

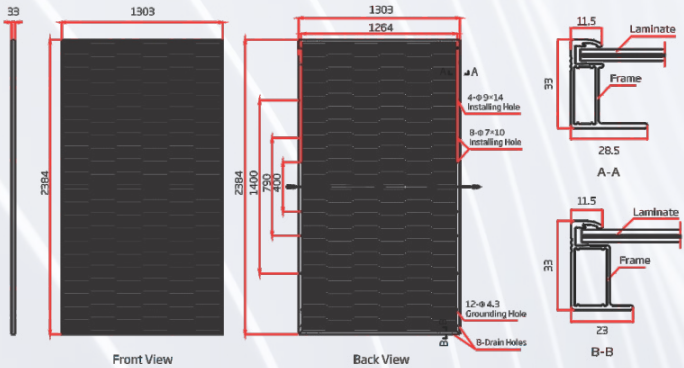
CURVES OF PV MODULE



MECHANICAL DATA

Solar Cells	N-type i-TOPCon Monocrystalline
No. of cells	132 cells
Module Dimensions	2384×1303×33 mm (93.86×51.30×1.30 inches)
Weight	38.3 kg (84.4 lb)
Front Glass	2.0 mm (0.08 inches), AR Coating Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Coating)
Frame	33mm(1.30 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²) Portrait: 350/280 mm(13.78/11.02 inches) Length can be customized
Connector	MC4 EVO2 / TS4 Plus / TS4*
Packaging	Modules per box: 33 pieces Modules per 40ft container: 594 pieces

*Please refer to regional datasheet for specified connector.



بازگشت

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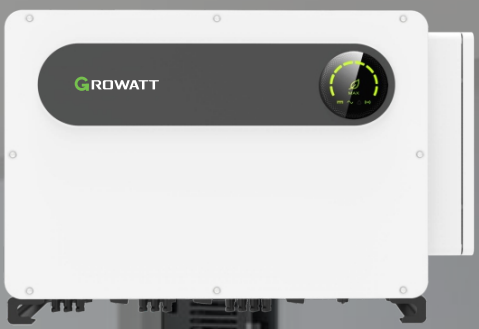


اینورتر

برند مورد نظر را انتخاب کنید

GROWATT

solis

SUNGROW

HUAWEI

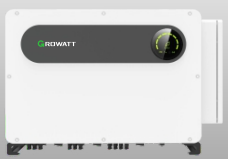
تماس با پشتیبانی

بازگشت

NOURA TECH

اینورتر GROWATT

مدل مورد نظر را انتخاب کنید

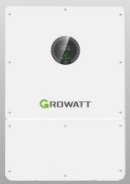


On Grid

Max 100 - 125KTL3-XLV

Off Grid

SPF 6000 ES Plus



Hybrid

WIT 4-15K-HU

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بازگشت

NOURA TECH

GROWATT

ON GRID

Datasheet	MAX 100KTL3-X LV	MAX 110KTL3-X LV	MAX 120KTL3-X LV	MAX 125KTL3-X LV
Input data (DC)				
Max. DC voltage	1100V			
Start voltage	195V			
Nominal voltage	600V			
MPP voltage range	180V-1000V			
No. of MPP trackers	10			
No. of PV strings per MPP tracker	2			
Max. input current per MPP tracker	32A			
Max. short-circuit current per MPP tracker	40A			
Output data (AC)				
AC nominal power	100000W	110000W	120000W	125000W
Max. AC apparent power	110000VA	121000VA	132000VA	137500VA
Nominal AC voltage (range*)	220V/380V, 230V/400V (340-440V)			
AC grid frequency (range*)	50/60 Hz(45~55Hz/55-65 Hz)			
Max. output current	158.8A@400V 167.1A@380V	174.6A@400V 183.8A@380V	190.5A@400V 200.5A@380V	198.5A@400V 208.9A@380V
Adjustable power factor	0.8leading ...0.8lagging			
THDi	<3%			
AC grid connection type	3W/N/PE			
Efficiency				
Max.efficiency	98.8%			
European efficiency	98.4%	98.5%	98.5%	98.5%
MPPT efficiency	99.9%			
Protection devices				
DC reverse polarity protection	Yes			
DC switch	Yes			
AC/DC surge protection	Type II / Type II			
Insulation resistance monitoring	Yes			
AC short-circuit protection	Yes			
Ground fault monitoring	Yes			
String detection	Yes			
Anti PID function	Optional			
Arc fault detection (AFCI)	Optional			
General data				
Dimensions (W / H / D)	970/640/345mm			
Weight	84kg			
Operating temperature range	–30°C ... +60°C			
Nighttime power consumption	< 1W			
Topology	Transformerless			
Cooling	Smart air cooling			
Protection degree	IP66			
Relative humidity	0~100%			
Altitude	4000m			
DC connection	H4/MC4 (Max.6mm²)			
AC connection	OT Terminal (Max. 240mm²)			
Display	LED/WIFI+APP			
Interfaces: RS485 / USB /PLC/GPRS/4G/WiFi	Yes/Yes/Optional/Optional/Optional/Optional			
Warranty: 5 years / 10 years	Yes /Optional			
CE, UKCA, IEC62116, IEC61727, CQC, VDE0126, VFR2019, EN50549-1/-2, C10/C11, UNE206007, G99 CEI 0-21/0-16, N4105, UNE206006,MEA, PEA, KSC8565				

* The AC voltage range and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

NOURA TECH

GROWATT

OFF GRID

Datasheet	SPF 6000 ES Plus
Battery voltage	48VDC
Battery type	Lithium/Lead-acid
Inverter output	
Rated power	6000VA/6000W
Parallel capability	Yes, 6 units maximum
AC voltage regulation (battery mode)	230VAC ± 5% @ 50/60Hz
Surge power	12000VA
Efficiency (peak)	93%
Waveform	Pure sine wave
Transfer time	10ms typical, 20ms Max
Solar charger	
Maximum PV array power	8000W
MPPT range @ operating voltage	120VDC ~ 450VDC
Number of independent MPP trackers/ strings per MPP tracker	2/1
Max. input current per MPP tracker	16A
Maximum PV array open circuit voltage	500VDC
Maximum solar charge current	100A
AC charger	
Charge current	80A
AC input voltage	230VAC
Selectable voltage range	170-280 VAC (For personal computers) ; 90-280 VAC (For home appliances)
Frequency range	50Hz/60Hz (Auto sensing)
Physical	
Protection degree	IP20
Dimension (W/H/D)	460/395/132mm
Net weight	13.5kg
Operating environment	
Humidity	5% to 95% Relative humidity (Non-condensing)
Altitude	<2000m
Operating temperature	0°C - 55°C
Storage temperature	-15°C - 60°C

بازگشت

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NOURA TECH

GROWATT

HYBRID

Datasheet	WIT 4K-HU	WIT 5K-HU	WIT 6K-HU	WIT 8K-HU	WIT 10K-HU	WIT 12K-HU	WIT 15K-HU
Input data (PV)							
Max. recommended PV power (for module STC)	6400W	8000W	9600W	12800W	16000W	19200W	24000W
Max. input voltage	1000V						
Start voltage	180V						
Nominal voltage	600V						
MPPT voltage range	150V-850V						
Max. input current per MPP tracker	40A			20A		40A	
Max. short-circuit current per MPP tracker	50A			25A		50A	
No. of PV strings per MPP tracker	2			1		2/1	
No. of MPP trackers	1			2		2	
Input/Output AC (Including the Gen Port)							
AC input/output nominal power(Grid)	8000W/4000W	10000W/5000W	12000W/6000W	16000W/8000W	20000W/10000W	24000W/12000W	30000W/15000W
Max. AC input/output apparent power(Grid)	8800VA/4400VA	11000VA/5500VA	13200VA/6600VA	17600VA/8800VA	22000VA/11000VA	26400VA/13200VA	33000VA/16500VA
Max. input/output current(Grid)	13.4A/6.7A	16.7A/8.4A	20.0A/10.0A	26.6A/13.3A	33.3A/16.7A	40.0A/20.0A	50.1A/25.0A
Max. input current(GEN/AC couple)	12.2A	15.2A	18.2A	24.2A	30.4A	36.4A	45.4A
Max. continuous AC passthrough current	50.1A						
Nominal AC voltage/range	220V/380V, 230V/400V, –15%~+10%						
Nominal AC grid frequency/range	50/60Hz, 45~55Hz/55~65 Hz						
Adjustable power factor	–1…+1						
THDi	<3%						
AC grid connection type	3P3W+PE/3P4W+PE						
Battery data (DC)							
Battery type	Lead-acid or Lithium-ion						
Battery voltage range/Rated voltage	40-60V/51.2V						
Max charging and discharging current	110A	125A	150A	200A	220A	250A	290A
BMS communication	RS485/CAN						
Backup power (AC)*							
Rated AC output power	4000W	5000W	6000W	8000W	10000W	12000W	15000W
Max. AC apparent power	2 time of rated power, 10s						
Rated AC output voltage	220V/380V, 230V/400V						
Nominal AC output frequency	50/60Hz						
Max. output current	12.2A@220V 11.6A@230V	15.2A@220V 14.4A@230V	18.2A@220V 20.0A@230V	24.2A@220V 23.2A@230V	30.3A@220V 29A@230V	36.4A@220V 34.8A@230V	45.5A@220V 43.4A@230V
THDv	3% (Linear load)						
Load unbalance	100% three-phase unbalanced						
On/off grid transfer time	10ms						
Efficiency							
Max. efficiency	97.60%						
European efficiency	97.00%						
MPPT efficiency	99.90%						
Protection devices							
PV reverse polarity protection	Yes						
DC switch	Yes						
DC/AC surge protection	Type II/Type II						
Insulation resistance monitoring	Yes						
Residual-current monitoring unit	Yes						
AC short-circuit protection	Yes						
Ground fault monitoring	Yes						
Grid monitoring	Yes						
Strings monitoring	Yes						
Anti-islanding protection	Yes						
PID protection	Opt						
AFCI function	Opt						
General							
Dimensions (W / H / D)	475/698/240mm						
Weight	43kg						
Operating temperature range	–30°C ... +60°C (> 45°C, derating)						
Noise	≤50dB(A)						
Relative humidity	0~100%						
Altitude	3000m						
Topology	Transformerless						
Cooling	Smart air cooling						
IP degree	IP66						
Display	OLED/LED+APP						
Interfaces: RS485/USB	Yes						
Interfaces: WIFI/LAN	Yes						
Warranty (5/10 years)	Yes/Opt						
IEC62109, EC 61000, IEC 61727, EC 62116, IEC 61683, IEC 60068, EN 50549, VDE 4105							

بازگشت

NOURA TECH

اینورتر

solis

مدل مورد نظر را انتخاب کنید

On Grid

80 - 125 K

On Grid

250 - 255K

On Grid

350K

تماس با پشتیبانی

بازگشت

NOURA TECH

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DATASHEET

S6-GC(80-125)K

ON GRID

Models	80K	100K	110K	125K	125K-HV
Input DC					
Max. input voltage	1100 V				
Rated voltage	600 V				720 V
Start-up voltage	180 V				
MPPT voltage range	160 - 1000 V				
Max. input current	4 × (42 A / 36 A)	5 × (42 A / 36 A)			
Max. short circuit current	8 × 50 A	10 × 50 A			
MPPT number / Max. input strings number	8 / 16	10 / 20			
Output AC					
Rated output power	80 kW	100 kW	110 kW	125 kW	125kW
Max. apparent output power	88 kVA	110 kVA	121 kVA	125 kVA	137.5 kVA
Max. output power	88 kW	110 kW	121 kW	125 kW	137.5 kW
Rated grid voltage	3/N/PE, 220 V / 380 V, 230 V / 400 V				3/PE, 480 V
Rated grid frequency	50 Hz / 60 Hz				
Rated grid output current	121.6 A / 115.5 A	152.0 A / 144.3 A	167.1 A / 158.8 A	189.9 A / 180.4 A	150.4 A
Max. output current	133.7 A	167.1 A	183.8 A	189.9 A	165.4 A
Power factor	> 0.99 (0.8 leading - 0.8 lagging)				
THDi	< 3%				
Efficiency					
Max. efficiency	98.7%				
EU efficiency	98.3%				
Protection					
DC reverse-polarity protection	Yes				
Short circuit protection	Yes				
Output over current protection	Yes				
Surge protection	DC Type II / AC Type II				
Grid monitoring	Yes				
Anti-islanding protection	Yes				
Temperature protection	Yes				
Strings monitoring	Yes				
I/V Curve scanning	Yes				
Integrated AFCI 2.0	Optional				
Integrated PID recovery	Optional				
Integrated DC switch	Yes				
Integrated AC switch	Optional				
General Data					
Dimensions (W × H × D)	1014 × 567 × 345 mm				
Weight	93 kg	96 kg			
Topology	Transformerless				
Self-consumption (night)	< 2 W				
Operating ambient temperature range	-30 ~ +60°C				
Relative humidity	0 - 100%				
Ingress protection	IP66				
Cooling concept	Intelligent fan-cooling				
Max. operation altitude	4000 m				
Grid connection standard	G99, IEC61727, EN50549-1/2, VDE4110				
Safety / EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-2/-4				
Features					
DC connection	MC4 connector				
AC connection	OT terminal (max. 240 mm^2)				
Display	LCD				
Communication	RS485, Optional: Wi-Fi, GPRS, PLC				

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NOURA TECH

solis

DATASHEET

Solis-(250-255)K-EHV-5G-PLUS

ON GRID

Models	250K	255K
Input DC		
Max. input voltage	1500 V	
Rated voltage	1080 V	
Start-up voltage	500 V	
MPPT voltage range	480 - 1500 V	
Max. input current	12 × 30 A	
Max. short circuit current	12 × 50 A	
MPPT number / Max. input strings number	12 / 24	
Output AC		
Output power	250 kVA@30°C / 235 kVA@40°C / 220 kVA@50°C	255 kVA@30°C / 235 kVA@40°C / 220 kVA@50°C
Rated grid voltage	3/PE, 800 V	
Grid voltage range	640 - 920 V	
Rated grid frequency	50 Hz / 60 Hz	
Max. output current	180.4 A	184.0 A
Power factor	> 0.99 (0.8 leading - 0.8 lagging)	
THDi	< 3%	
Efficiency		
Max. efficiency	99.0%	
EU efficiency	98.8%	
Protection		
DC reverse-polarity protection	Yes	
Short circuit protection	Yes	
Output over current protection	Yes	
Surge protection	DC Type II / AC Type II	
Grid monitoring	Yes	
Anti-islanding protection	Yes	
Temperature protection	Yes	
Strings monitoring	Yes	
I/V Curve scanning	Yes	
Night time SVG function	Yes	
Integrated PID recovery	Yes	
Integrated DC switch	Yes	
General Data		
Dimensions (W × H × D)	1125 × 770 × 384 mm	
Weight	113 kg	
Topology	Transformerless	
Self-consumption (night)	< 2 W	
Operating ambient temperature range	-30 ~ +60°C	
Relative humidity	0 - 100%	
Ingress protection	IP66	
Cooling concept	Intelligent fan-cooling	
Max. operation altitude	4000 m	
Grid connection standard	EN50549, G99, AS4777.2, VDE0126, IEC61727, VDE4110, CEA 2019	
Safety / EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-2/-4	
Features		
DC connection	MC4 connector	
AC connection	OT terminal (max. 300 mm^2)	
Display	LCD	
Communication	RS485, Optional: PLC	

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solis

ON GRID

DATASHEET

Models	350K
Input DC	
Max. input voltage	1500 V
Rated voltage	1080 V
Start-up voltage	500 V
MPPT voltage range	480 - 1500 V
Max. input current	6 × 80 A
Max. short circuit current	6 × 125 A
MPPT number / Max. input strings number	6 / 30
Output AC	
Rated output power	350 kW
Max. apparent output power	350 kVA
Rated grid voltage	3/PE, 800 V
Grid voltage range	640 - 920 V
Rated grid frequency	50 Hz / 60 Hz
Max. output current	252.6 A
Power factor	> 0.99 (0.8 leading - 0.8 lagging)
THDi	< 3%
Efficiency	
Max. efficiency	99.0%
EU efficiency	98.7%
Protection	
DC reverse-polarity protection	Yes
Short circuit protection	Yes
Output over current protection	Yes
Surge protection	DC Type II / AC Type II
Grid monitoring	Yes
Anti-islanding protection	Yes
Temperature protection	Yes
Strings monitoring	Yes
I/V Curve scanning	Yes
Night time SVG function	Yes
Integrated PID recovery	Yes
Integrated DC switch	Yes
General Data	
Dimensions (W × H × D)	1098 × 813 × 378.5 mm
Weight	117 kg
Topology	Transformerless
Self-consumption (night)	< 3 W
Operating ambient temperature range	-30 ~ +60°C
Relative humidity	0 - 100%
Ingress protection	IP66
Cooling concept	Intelligent fan-cooling
Max. operation altitude	4000 m
Grid connection standard	EN50549, G99, AS4777.2, VDE0126, IEC61727, VDE4110, CEA 2019
Safety / EMC standard	IEC62109-1/-2, EN61000-6-2/-4
Features	
DC connection	Matching connector
AC connection	OT terminal (max. 400 mm^2)
Display	LED indicator & Bluetooth + APP
Communication	RS485, Optional: PLC

بازگشت

تماس با پشتیبانی

NOURA TECH

اینورتر

SUNGROW

مدل مورد نظر را انتخاب کنید

On Grid

SG125CX-P2

On Grid

SG150CX

تماس با پشتیبانی

بازگشت

NOURA TECH

SUNGROW

ON GRID

Type designation	SG125CX-P2
Input (DC)	
Recommended max. PV input power	175 kW
Max. PV input voltage	1100 V
Min. PV input voltage / Startup input voltage	180 V / 200 V
Rated PV input voltage	600 V
MPP voltage range	180 – 1000 V
No. of independent MPP inputs	12
No. of PV strings per MPPT	2
Max. PV input current	360 A (30 A *12)
Max. DC short-circuit current	480 A (40 A * 12)
Max. current for DC connector	20A
Output (AC)	
Max. AC Output power	125 kVA (415 V @ 50 °C) *
Rated AC output apparent power	125 kVA (415 V @ 50 °C) *
Max. AC output current	181.1 A
Rated AC output current(at 230V)	181.1 A
Rated AC voltage	3 / N / PE, 230 / 400 V ; 3 / N / PE, 240 / 415 V
AC voltage range	320 – 480 V
Rated grid frequency	50 Hz / 60 Hz
Grid frequency range	45 – 55 Hz / 55 – 65 Hz
Harmonic (THD)	< 3 % (at rated power)
Power factor at rated power / Adjustable power factor	> 0.99 / 0.8 leading – 0.8 lagging
Feed-in phases / connection phases	3 / 3-N-PE
Efficiency	
Max. efficiency / European efficiency	98.5% / 98.3%
Protection	
Grid monitoring	Yes
DC reverse polarity protection	Yes
AC short circuit protection	Yes
Leakage current protection	Yes
Surge protection	DC Type I + II / AC Type II
Ground fault monitoring	Yes
DC switch	Yes
PV string monitoring	Yes
Q at night function	Yes
Arc fault circuit interrupter (AFCI)	Yes
PID recovery function	Yes
General Data	
Dimensions (W*H*D)	1020*795*360 mm
Mounting Method	Wall-mounting bracket
Weight	87 kg
Topology	Transformerless
Degree of protection	IP66
Corrosion	C5
Night power consumption	< 5 W
Operating ambient temperature range	-30 to 60 ℃
Allowable relative humidity range (non-condensing)	0 – 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m (> 3000 m derating)
Display	LED, Bluetooth+APP
Optimizer	SP600S (Optional)
Communication	RS485 / Optional: WLAN, Ethernet
DC connection type	Evo2 (Max. 6 mm²)
AC connection type	OT / DT terminal (Max. 240 mm²)
Grid Compliance	IEC 62109-1, EN/IEC 61000-6-1/2/3/4, IEC 61727, IEC 62116, EN 50549-1/2, UTE C15-712-1, VDE V 0126-1-1, VDE-AR-N 4105:2018, VFR 2019, NC RfG, G99, UNE 217002, NTS, CEI 0-21 2019,CEI0-16 2019, NRS-097-2-1
Grid Support	Q at night function, LVRT, HVRT, active & reactive power control and power ramp rate control

بازگشت

تماس با پشتیبانی

NOURA TECH

SUNGROW

ON GRID

Type designation	SG150CX
Input (DC)	
Recommended max. PV input power	210 kWp
Max. PV input voltage *	1100 V
Min. PV input voltage / Startup input voltage	180 V / 200 V
Rated PV input voltage	600 V (380 V / 400 V / 415 V); 720 V (480 V
MPPT voltage range **	180 V □ 1000 V
No. of independent MPP inputs	7
No. of PV strings per MPPT	3 / 3 / 3 / 3 / 3 / 3 / 3
Max. PV input current	336 A (48 A * 7)
Max. DC short-circuit current	462 A (66 A * 7)
Max. current for DC connector	30 A
Output (AC)	
Rated AC output power	150 kW
Max. AC output apparent power	165 kVA
Max. AC output current	250.7 A @ 380 Vac ; 240.6 A @ 400 Vac / 415 Vac ; 200.5 A @ 480 Vac
Rated AC output current	227.9 A @ 380 Vac ; 216.5 A @ 400 Vac / 415 Vac ; 180.4 A @ 480 Vac
Rated AC voltage	3 / N / PE, 220 V / 380 V, 230 V / 400 V , 240 V / 415 V , 277 V / 480 V
AC voltage range	320 V - 480 V (380 V / 400 V / 415 V) ; 380 V - 552 V (480 V)
Rated grid frequency	50 Hz / 60 Hz
Grid frequency range	45 Hz □ 55 Hz / 55 Hz □ 65 Hz
Harmonic (THD)	≤ 1 % (at 400 V AC voltage and rated power) ≤ 2 % (at 480 V AC voltage and rated power)
Power factor at rated power / Adjustable power factor	> 0.99 / 0.8 leading □ 0.8 lagging
Feed-in phases / AC connection	3 / 3-N-PE
Efficiency	
Max. efficiency	98.8%
European efficiency	98.2% (380 V / 400 V / 415 V); 98.4 % (480 V)
Protection & function	
Grid monitoring	Yes
DC reverse polarity protection	Yes
AC short-circuit protection	Yes
Leakage current protection	Yes
Surge protection	DC Type I+II / AC Type II
Ground fault monitoring	Yes
DC switch	Yes
PV string current monitoring	Yes
Intelligent DC arc interrupter	Yes
Arc fault circuit interrupter (AFCI)	Yes
PID recovery function	Yes
RSD compatibility ***	Optional
General data	
Dimensions (W * H * D)	1025 mm * 795 mm * 360 mm
Weight	≤ 100 kg
Mounting method	Wall-mounting bracket
Topology	Transformerless
Degree of protection	IP66
Night power consumption	≤ 7 W
Corrosion	C5
Operating ambient temperature range	-30 ℃ □ 60 ℃
Allowable relative humidity range (non-condensing)	0 □ 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m
Display	LED, Bluetooth + APP
Communication	RS485 / WLAN (optional) / Ethernet (optional)
DC connection type	EVO2 (Max. 6 mm²)
AC connection type	OT / DT terminal (120~400 mm²)
AC cable specification	Outside diameter 18 mm □ 38 mm
Grid compliance	IEC EN 62109-1/-2; IEC 60529; IEC 61000-6-1/-2/-3/-4; EN55011; CISPR 11; IEC 63027; EN 50549-1-10/-2-10; IEC 61727; IEC 62116; IEC 61683; EN 50530; IEC 60068-1/-2/-14/-27/-30/-64; IEC/EN 61000-3-11/12; IEC 62920; VDE4110; VDE4120; PSE 2018; NC RFG; TOR Erzeuger Typ A; TOR Erzeuger Typ B; OVE-Richtlinie R25/03.20; G99; CEI 0-16; CEI 0-21; VDE0126; NTS UNE217001/217002; NTS 631; IEC60947.2; PEA; MEA; IEC 62910; DEWA; NRS 097; IRR-DCC-MV
Grid support	Q at night function, LVRT, HVRT, active & reactive power control and power ramp rate control

بازگشت

تماس با پشتیبانی

NOURA TECH

اینورتر HUAWEI

مدل مورد نظر را انتخاب کنید

On Grid

SUN2000-115KTL-M2

On Grid

SUN2000-330KTL-H2

تماس با پشتیبانی

بازگشت

NOURA TECH

HUAWEI

ON GRID

Technical Specification	SUN2000-115KTL-M2
Efficiency	
Max. efficiency	98.6% @400 V, 98.8% @480 V
European efficiency	98.4% @400 V, 98.6% @480 V
Input	
Max. Input Voltage [1]	1,100 V
Max. Current per MPPT	30 A
Max. Current per Input	20 A
Max. Short Circuit Current per MPPT	40 A
Start Voltage	200 V
MPPT Operating Voltage Range [2]	200 V – 1,000 V
Nominal Input Voltage	600 V @400 Vac, 720 V @480 Vac
Number of MPP trackers	10
Max. input number per MPP tracker	2
Output	
Nominal AC Active Power	115,000 W
Max. AC Apparent Power	125,000 VA
Max. AC Active Power (cosφ=1)	125,000 W
Nominal Output Voltage	400 V / 480 V, 3W+(N)+PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	166.0 A @400 V, 138.4 A @480 V
Max. Output Current	182.3 A @400 V, 151.9 A @480 V
Adjustable Power Factor Range	0.8 leading... 0.8 lagging
Max. Total Harmonic Distortion	< 3%
Protection	
Input-side Disconnection Device	Yes
Anti-islanding Protection	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Monitoring	Yes
DC Surge Arrester	Type II
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Monitoring Unit	Yes
Smart String Level Disconnector	Yes
Communication	
Display	LED indicators; WLAN adaptor + FusionSolar APP
RS485	Yes
USB	Yes
Smart Dongle-4G	Smart Dongle - 4G / WLAN (Optional)
Monitoring BUS (MBUS)	Yes (isolation transformer required)
General Data	
Dimensions (W x H x D)	1,035 x 700 x 365 mm
Weight (with mounting plate)	93 kg
Operating Temperature Range	-25°C – 60°C
Cooling Method	Smart Air Cooling
Max. Operating Altitude	4,000 m (13,123 ft.)
Relative Humidity	0 – 100%
DC Connector	Amphenol Helios H4
AC Connector	Waterproof Connector + OT/DT Terminal
Protection Degree	IP66
Topology	Transformerless
Nighttime Power Consumption	< 3.5 W
Standard Compliance (more available upon request)	
Certificate	EN 62109-1/-2, IEC 62109-1/-2, EN 50530, IEC 62116, IEC 61727, IEC 60068, IEC 61683
Grid Connection Standar ds	VDE-AR-N4105, EN 50549-1, EN 50549-2, RD 661, RD 1699, C10/11

بازگشت

تماس با پشتیبانی

NOURA TECH

HUAWEI

ON GRID

Efficiency	
Max. Efficiency	≥ 99.0%
European Efficiency	≥ 98.8%
Input	
Max. Input Voltage	1,500 V
Number of MPPT	6
Max. Current per MPPT	65 A
Max. Short Circuit Current per MPPT	115 A
Max. PV Inputs per MPPT	4/5/5/4/5/5
Start Voltage	550 V
MPPT Operating Voltage Range	500 V ~ 1,500 V
Nominal Input Voltage	1,080 V
Output	
Nominal AC Active Power	275,000 W[1]
Max. AC Apparent Power	330,000 VA
Max. AC Active Power (cosϕ=1)	330,000 W
Nominal Output Voltage	800 V, 3W + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	198.5 A
Max. Output Current	240.3 A
Adjustable Power Factor Range	0.8 LG ... 0.8 LD
Total Harmonic Distortion	THD_i < 1% (Rated)
Protection	
Smart String-level Disconnection (SSLD)	Yes
Smart Connector-level Detection (SCLD)	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Detection	Yes
DC Surge Arrester	Type II
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Detection Unit	Yes
Communication	
Display	LED Indicators, WLAN + APP
USB	Yes
MBUS	Yes
RS485	Yes
General	
Dimensions (W x H x D)	1,048 x 732 x 395 mm
Weight (with mounting plate)	≤ 112 kg
Operating Temperature Range	-25°C ~ 60°C
Cooling Method	Smart Air Cooling
Max. Operating Altitude without Derating	4,000 m
Relative Humidity	0 ~ 100% (Non-condensing)
DC Connector	HH4SMM4TMSPA / HH4SFM4TMSPA
AC Connector	Support OT / DT Terminal (Max. 400 mm^2)
Protection Degree	IP 66
Anti-corrosion Protection	C5-Medium
Topology	Transformerless
Standards Compliance	
IEC 62109-1/-2, IEC 62920, IEC 60947-2, EN 50549-2, IEC 61683, etc.	

بازگشت

تماس با پشتیبانی

NOURA TECH

باتری LFP

برند مورد نظر را انتخاب کنید

GROWATT

DYNESS

تماس با پشتیبانی

بازگشت

NOURA TECH

باتری GROWATT LFP

مدل مورد نظر را انتخاب کنید

HOPE 5.0L-B1 >

HOPE 5.0LW-B1 >

HOPE 16.0LM-A1 >

تماس با پشتیبانی

بازگشت

NOURA TECH

GROWATT

Datasheet	Hope 5.0L-B1
Battery data	
Nominal voltage	51.2V
Rated capacity	5.12kWh
Usable capacity	5.0kWh
Operating voltage	40 ~ 58.4V
Max. discharging current	100A
Peak discharging current	250A/150ms
Max charging current	100A
General data	
Dimension (W/D/H)	440/480/130.5mm
Weight	43±2Kg
IP protection	IP20
Charge temperature	0℃~+55℃
Discharge temperature	-20℃~+55℃
Features	
DOD	98%
Cycle life	>6000 (25℃, 0.2C,)
Parallel connection	Max.48 packs
Communication port	CAN/RS485
Warranty	5 Years
	CE(EMC)，UN 38.3, MSDS, ROHS

* Nominal charge/discharge current and power derating will occur related to Temperature and SOC

بازگشت

تماس با پشتیبانی

NOURA TECH

GROWATT

Datasheet	HOPE 5.0LW-B1
Battery data	
Nominal voltage	51.2V
Rated capacity	5.12kWh
Usable capacity	5.0kWh
Operating voltage	40 ~ 58.4V
Max. discharging current	100A
Peak discharging current	750A,5ms
Max charging current	100A
General data	
Dimension (W/D/H)	390*152*620
Weight	<44.5kg
IP protection	IP20
Charge temperature	0℃~+55℃
Discharge temperature	-20~55℃
Installation	Wall-mounted
Features	
DOD	92%
Cycle life	>=6000 (80% DOD,25℃)
Parallel connection	Max.48 packs
Communication port	CAN/RS485
Warranty	5 Years
	IEC62619/CE(EMC)/UN38.3/MSDS/ROHS

بازگشت

تماس با پشتیبانی

NOURA TECH

GROWATT

Datasheet	HOPE 16.0LM-A1
System data	
Battery type	LiFePO4
Nominal voltage	51.2V
Normal capacity	16kWh
Usable capacity	15.3kWh
Operating voltage	40~58.4V
Max. Charge/Discharge current	150A/200A
Peak charging/ discharging current	700A/200 us
DOD	95%
General	
Dimension (W/H/D)	440/894/265mm
Weight	120±2kg
Installation	Floor-standing
Altitude	<2000 m
IP Protection	IP20
Operating temperature	Chg: 0~60℃/Dsg: -20 ~ 60℃
Storage temperature*	-20 ~ 60℃
Features	
Cycle life	6000 (0.5C , 80% DOD, @25℃)
Cooling	Natural convection
System connection	Max. 48 pcs in paralle
Communication port	CAN/RS485
Warranty: 5 years / 10 years	Yes /Optional
CE(EMC), UN38.3, MSDS, ROHS, IEC62619	

بازگشت

تماس با پشتیبانی

NOURA TECH

باتری LFP DYNESS

مدل مورد نظر را انتخاب کنید

DL5.0C PRO

POWERBRICK 14.3

تماس با پشتیبانی

بازگشت

NOURA TECH

DYNESS

Model	DL5.0C Pro
Battery Type	$LiFePO_4$
Nominal Battery Energy	5.12kWh
Nominal Capacity	100Ah
Nominal Voltage	51.2V
Operating Voltage	44.8~57.6V
Recomended Charge & Discharge C Rate	0.5C
Maximum Discharge C Rate	1C
Recommended Charge/Discharge Current	50A
Max. Charge/Discharge Current	Charge 75A Discharge 100A
Peak Discharge Current	120A@10min
Depth of Discharge (DOD)	95%
Net Weight	46kg
Dimension[W/D/H]	488/515/150mm
Charging Temp. Range	0~55°C/-20~55°C (with heating function)
Discharging Temp. Range	-20~55°C
Communication	CAN/RS485
WIFI Module	Built-in WIFI module; APP OTA function
Cycle Life*	≥6000 Cycles
Protection Level	IP20
Active fire protection system	Optional Aerosol fire extinguisher
Expansion	Up to 50 units in parallel
Pros	Can be used in both off-grid and hybrid setups, compact design
Certification & Safety Standard	UN38.3/CE-EMC/IEC62619/CE-RED
Compatible Inverters	SMA/Schneider/Victron energy/Ingeteam/Solis/GoodWe/ Growatt/Solplanet/Luxpower/DEYE/Apsystem etc.

بازگشت

تماس با پشتیبانی

NOURA TECH

DYNESS

Model	PowerBrick
Battery Type	$LiFePO_4$
Nominal Battery Energy	14.336kWh
Nominal Voltage/Capacity	51.2V/280Ah
Recommended Charge/Discharge Current	140A (0.5C)
Max. Charge Current	200A
Max. Discharge Current	200A
Depth of Discharge	95%
Communication	CAN/RS485
Cycle Life *	Unlimited cycles / 10 Years
Protection Level	IP20
Net Weight	114kg
Dimension[W/D/H]	435/233/857mm (No wall -mounted bracket)
Maximum Parallel Modules	50
Charging Temp. Range	0~55°C
Discharging Temp. Range	-20~55°C
WIFI Module	Built-in WiFi module; APP OTA function
Fire Protection System	Optional Aerosol fire extinguisher
Certification & Safety Standard	UN38.3/CE-EMC/IEC62619/GOST-R
Compatible Inverters	SMA/Schneider/Victron energy/Ingeteam/Solis/GoodWe/Growatt/Soplanet/SOFAR/SAJ/DEYE etc.

بازگشت

تماس با پشتیبانی

NOURA TECH

حسگر سنجش کارایی

NV-SMC01

مشاهده اطلاعات

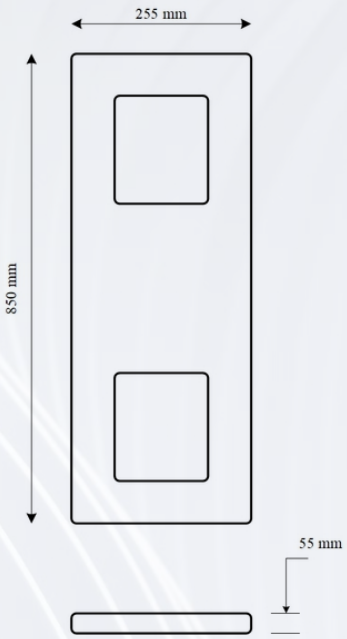
تماس با پشتیبانی

بازگشت

- ابزاری دقیق برای اندازه‌گیری کاهش راندمان پنل‌های خورشیدی به دلیل گرد و غبار
- طراحی بومی با قابلیت مقایسه پنل مرجع تمیز و پنل آلوده
- دارای پاک‌سازی خودکار سلول مرجع، اتصال Wi-Fi و RS-485
- نصب سریع و عملکرد پایدار در نیروگاه‌های خورشیدی

SPECIFICATIONS

Soiling Measurements	• Daily soiling loss (% of daily insolation loss) • Soiling rate (moving average, % loss/day) • Soiling ratio (IEC standard 61724-1) • Transmission loss (%, instantaneous)
Irradiance	0 - 2000 W/m2, ±0.5%, temperature correction
Power and Battery	Solar powered, 3000 mAh extended temperature Lithium-Ion chemistry
Data Connection	Modbus RTU (over RS-485)
Data Retrieval	WiFi (Password Protected), Modbus (Micro SD Archiving Available for 10 Years)
Reference Cell	Polycrystalline cell, solar glass with standard ARC coating, white backsheet, EVA encapsulant
Self-Calibration	Easy 1x / year, on-site, OTA or local Modbus. No off-site lab calibration required.
Mechanical Load Rating	+/- 2400 Pa for wind +5400 Pa for snow loading
Enclosure IP Rating	IP66
Cleaning System	1x SS spray nozzles, 60psi max, 100 Lit. reservoir with pump available (Wash Extension accessory)
Mounting Holes	(6) 1/4"-20 brass inserts
Dimensions	850 x 255 x 55 mm (L x H x D)
Weight	15 kg
Electronic Temp. Range	-20°C to +75°C
Warranty	3 Years
Accessories	• Wash Extension with Tank Level Sensor • Purlin Bracket Kit

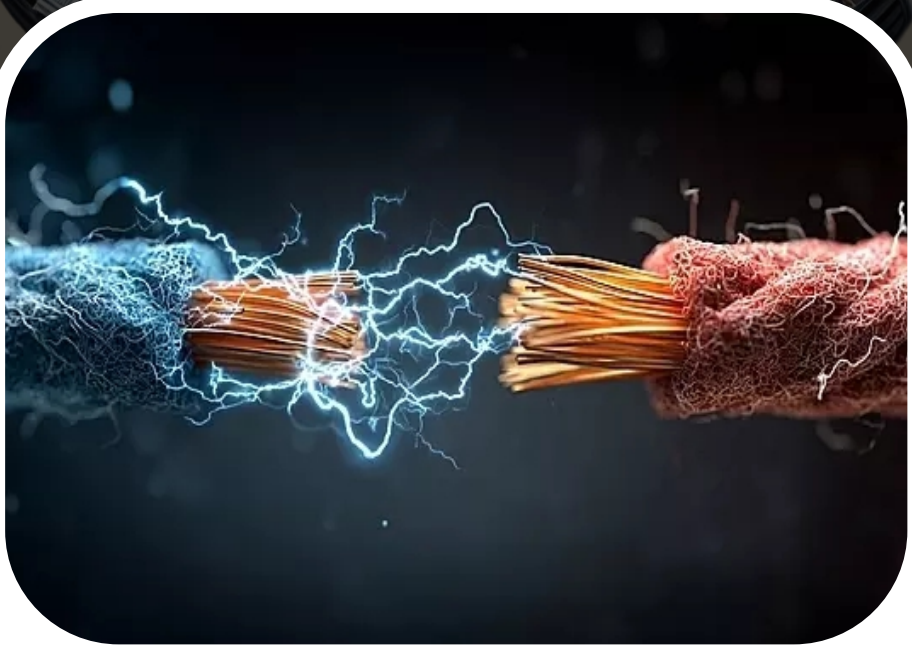


- جلوگیری از افت راندمان ۴۰ درصدی پنل ها در اثر آلودگی
- افزایش عمر اقتصادی و کاهش فرسایش سطحی پنل‌ها با تعیین زمان بهینه شست‌وشو
- مدیریت هوشمند نگهداری نیروگاه‌های خورشیدی، با ثبت و تحلیل داده‌های تولیدی
- مناسب برای پروژه‌های صنعتی، مگاواتی و پژوهشی
- عملکرد دقیق، قابل اعتماد و منطبق با استاندارد IEC724-1

تماس با پشتیبانی
بازگشت

NOURA TECH

کابل های DC



JINQISOLAR

مشاهده اطلاعات

تماس با پشتیبانی

بازگشت

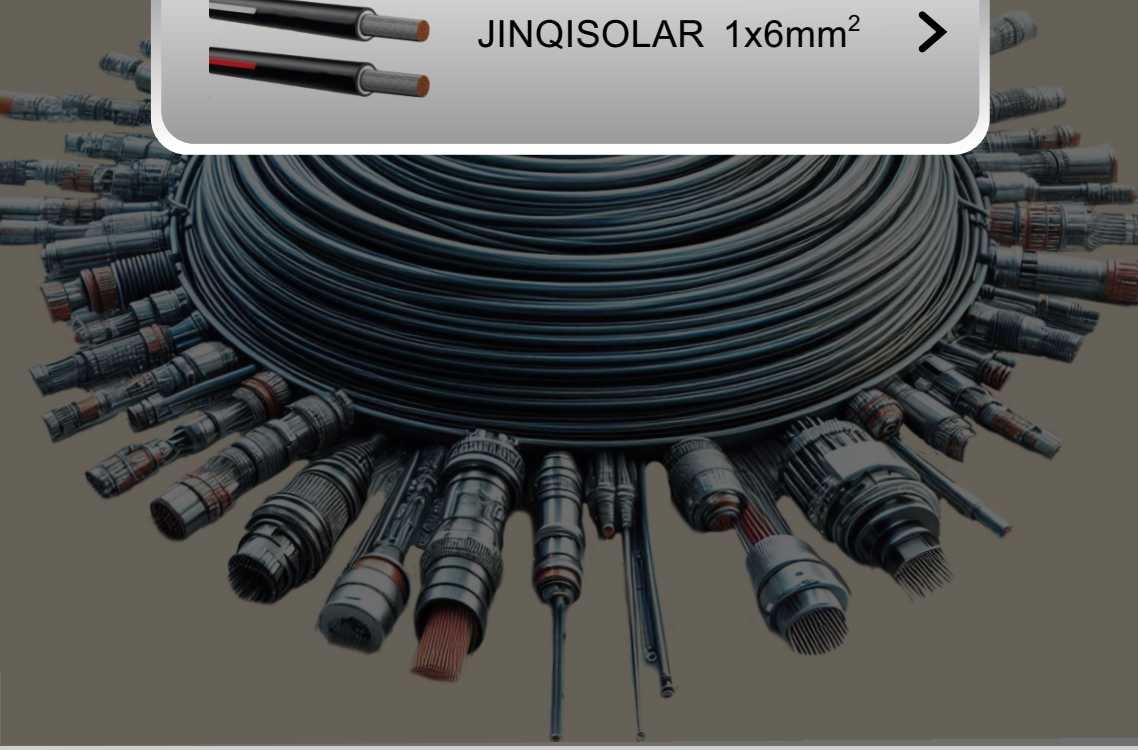
NOURA TECH

کابل JINQISOLAR

مدل مورد نظر را انتخاب کنید

JINQISOLAR 1x4mm^2

JINQISOLAR 1x6mm^2



تماس با پشتیبانی

بازگشت

IEC 62930 1x4.0 mm^2
DC 1500V XLPO/XLPO

Conductor	Stranded tinned copper (IEC 60228 Class 5) 56/0.28mm (mix0.27mm max0.29mm
Stranded OD	2.46 mm
Insulation	Halogen free crosslinked polyolefin Color: black
ID	4.0±0.15mm
Sheath	Halogen free crosslinked polyolefin Color: black/Red
OD	5.7±0.2mm
Marking	TÜV SÜD IEC62930 62930 IEC 131 1×4mm2 DC1500V HALOGEN FREE LOW SMOKE JINQI SOLAR PTE. LTD. B 132886

1x4.0 mm^2 SOLAR DC CABLE

Maximum resistance of conductor at 20℃	≤5.09Ω/KM
Insulation resistance at 20℃	≥709 MΩ·Km
Insulation resistance at 90℃	≥0.709MΩ·Km
Voltage test of finished cable	AC 6.5KV 5min,No break
DC Voltage test of insulation	1800V, 240h (85℃ , 10g/LNacl) No break
Tensile strength of insulation	≥8Mpa
elongation of insulation	≥125%
Tensile strength of sheath	≥8Mpa
elongation of sheath	≥125%
Shrinkage resistant	≤2%
Acid and alkali resistant	IEC60811-404
Ozone resistant	IEC60811- 403/EN50396-8.1.3
UV resistant	IEC 62930-Annex E
Dynamic penetrate force	IEC 62930-Annex D
-40℃,16h) Winding at low temperature	IEC 60811-504
-40℃, 16h) Impact at low temperature	IEC 60811-506
Fire performance	IEC60332-1-2
Cland Br Content	IEC 62930
Thermal endurance Test	IEC 60216-1,IEC 60216-2, TI120

Halogen Free Cable For Photovoltaic Equipment

Solar Application

Rating voltage	IEC：DC1500V
Working temperature	-40~90℃
Max. conductor temperature	120℃
Short circuit temperature	250℃ @ 5S
Bending radius	6×D
Life Period	≥25 years

Current Rating Ambient Temperature: 30℃

Installation Method	Free in air	On surface without opposite contact	On surface without opposite contact
Current rating	57A	54A	45A

NOURA TECH

IEC 62930 1x6.0 mm² DC 1500V XLPO/XLPO

Conductor	Stranded tinned copper (IEC 60228 Class 5) 84/0.28mm (mix0.27mm max0.29mm)
Stranded OD	2.96 mm
Insulation	Halogen free crosslinked polyolefin Color: black
ID	4.6±0.15mm
Sheath	Halogen free crosslinked polyolefin Color: black/Red
OD	6.3±0.2mm
Marking	TÜV SÜD IEC62930 62930 IEC 131 1×6mm2 DC1500V HALOGEN FREE LOW SMOKE JINQI SOLAR PTE. LTD. B 132886

1x6.0 mm² SOLAR DC CABLE

Maximum resistance of conductor at 20℃	≤3.39Ω/KM
Insulation resistance at 20℃	≥610 MΩ·Km
Insulation resistance at 90℃	≥0.610 MΩ·Km
Voltage test of finished cable	AC 6 5KV 5min, No break
DC Voltage test of insulation	1800V, 240h (85℃ , 10g/LNacl) No break
Tensile strength of insulation	≥8Mpa
elongation of insulation	≥125%
Tensile strength of sheath	≥8Mpa
elongation of sheath	≥125%
Shrinkage resistant	≤2%
Acid and alkali resistant	IEC60811-404
Ozone resistant	IEC60811- 403/EN50396-8.1.3
UV resistant	IEC 62930-Annex E
Dynamic penetrate force	IEC 62930-Annex D
-40℃,16h) Winding at low temperature	IEC 60811-504
-40℃, 16h) Impact at low temperature	IEC 60811-506
Fire performance	IEC60332-1-2
Cland Br Content	IEC 62930
Thermal endurance Test	IEC 60216-1,IEC 60216-2, TI120

Halogen Free Cable For Photovoltaic Equipment

Solar Application

Rating voltage	IEC：DC1500V
Working temperature	-40~90℃
Max. conductor temperature	120℃
Short circuit temperature	250℃ @ 5S
Bending radius	6×D
Life Period	≥25 years

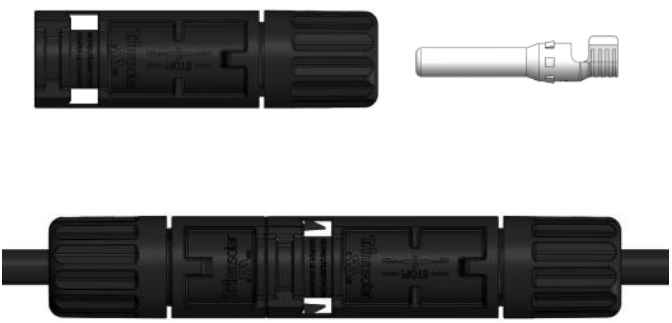
Current Rating Ambient Temperature: 30℃

Installation Method	Free in air	On surface without opposite contact	On surface without opposite contact
Current rating	72A	69A	58A

Approval： IEC62930

NOURA TECH

کانکتور



Trinasolar

مشاهده اطلاعات

تماس با پشتیبانی

بازگشت

TS4 Plus Connector Specifications

Product Name	TS4 Plus
Certified name	TS4-cd (c=1; d=1 or 2)
Rated voltage	IEC 1500V&UL 1500V
Rated current @IEC（85℃）	41A（4.0mm² / 12AWG） 46A（6.0mm² / 10AWG）
Rated impulse voltage	16KV
Ambient temperature range	-40℃~+85℃
Contact resistance	≤0. 5mΩ
Application degree	Class A
Protection class	Class Ⅱ
Pollution degree	2
Degree of protection	IP68（1m，1h）mated IP2X unmated
Flame class	UL94-V0
Insulation material	m-PPE/PA
Contact material	Copper, Tin-plated
Type of termination	Crimping
Locking system(UL)	Locking type
TUV,IEC62852	R50508240/R50385924
UL,UL6703	E486009

Product Selection Form

Type	P/N	Cable OD	Conductor Cross Section		Tool P/N		
		mm	mm²	AWG	Wire Stripper P/N	Rivet Plier P/N	Spanner P/N
TS4 Plus-F1	7A004669	4.7-6.0	4.0/6.0	12/10	7A001039	7A001038	7A004541
TS4 Plus-M1	7A004670						
TS4 Plus-F2	7A004671	5.6-6.8					
TS4 Plus-M2	7A004672						
TS4 Plus-F3	7A004673	6.0-7.2					
TS4 Plus-M3	7A004674						

بازگشت

تماس با پشتیبانی

NOURA TECH

استراکچر

FIXED BRACKET

مشاهده اطلاعات

تماس با پشتیبانی

بازگشت

NOURA TECH

Easy Adjustment	• **Push-Rod Operation · Quick Locking.** Ground push-rod operation allows fast adjustment and reliable locking.
Stable Structure	• **Triangular Locking · Superior Wind Resistance.** Triangular stable structure provides wind resistance comparable to fixed mounts.
Reliable Locking	• **Pin Fastening · No Loosening Risk.** Mechanical pin locking ensures no loosening.
Easy Operation & Maintenance	• **Durable · Low Maintenance.** Simple and durable design reduces O&M costs.

System Parameters

Tracking Type	2X14
Tilt Adjustment Range	15°-50°
Drive Type / Quantity	4 Push Rods
Protection Strategy	E-W: 5° (max.); N-S: Unrestricted
Foundation Options	PHC pile
Structural Materials	Hot dipped galvanized/ZAM high-strength steel
Design Wind Load	0.45KN/m² 25years
Design Snow Load	0.46KN/m² 25years
Module Compatibility	Compatible with all types of module

NOURA TECH

پست کمپکت

solis

مدل مورد نظر را انتخاب کنید

Solis-6500-MV

Solis-4550-MV

Solis-9100-MV

تماس با پشتیبانی

بازگشت

NOURA TECH

solis

DATASHEET — Solis-6500-MV

Models	Solis-6500-MV
LV panel	
MCCB specification	400 A / 800 Vac / 3P, 10 × 2 pcs
ACB specification	3200 A / 800 Vac / 3P, 1 × 2 pcs
Connection form with transformer	Copper busbar
Transformer	
Transformer type	Oil immersed
Rated output power	6500 kVA @ 40°C
Max. output power	7000 kVA @ 30°C
LV/MV voltage	0.8 kV / 10 - 35 kV
Max. input current	2526 A × 2
Tapping on HV	±2 × 2.5%
Vector group	Dy11y11
Frequency	50 Hz / 60 Hz
Cooling type	ONAN
Impedance	8% (± 10%)
Oil type	Mineral oil (Optional: plant oil)
Winding material	Al / Al (Optional: Cu / Cu)
Insulation class	A
Connection form with MV switchgear	Cable
MV Switchgear	
Type of insulate	SF6 (Optional: SF6-Free)
Rated voltage	12 - 40.5 kV
Rated current	630 A
Internal arcing fault	20 kA / 1 s
Qty of feeder	3 feeders
Protection	
LV surge protection	AC type I + II
AC input protection	Circuit breaker
Transformer protection	Oil-temperature, oil-level, oil-pressure
Fire protection	Smoke detection, emergency lighting
General Data	
Dimensions (W H D)	6058 × 2896 × 2438 mm
Approximate weight	21 T
Operating ambient temperature range	-25 ~ +60°C
Max. operation altitude	2000 m
Auxiliary power supply	5 kVA / 230 V (Optional: max. 50 kVA)
UPS	1 kVA 30 min (Optional: max. 2 kVA 2h)
Degree of protection	IP54
Anti-corrosion Class	C4-H (Optional: C5-M)
Allowable relative humidity range	0 - 95%
Communication	RS485, Ethernet, Optical fiber
Compliance	IEC 60076, IEC 62271, IEC61439

NOURA TECH

solis

DATASHEET — Solis-4550-MV

Models	Solis-4550-MV
LV panel	
MCCB specification	400 A / 800 Vac / 3P, 14 pcs
ACB specification	4000 A / 800 Vac / 3P, 1 pcs
Connection form with transformer	Copper busbar
Transformer	
Transformer type	Oil immersed
Rated output power	4550 kVA @ 40°C
Max. output power	4900 kVA @ 30°C
LV/MV voltage	0.8 kV / 10 - 35 kV
Max. input current	3536 A
Tapping on HV	±2 × 2.5%
Vector group	Dy11
Frequency	50 Hz / 60 Hz
Cooling type	ONAN
Impedance	8% (± 10%)
Oil type	Mineral oil (Optional: plant oil)
Winding material	Al / Al (Optional: Cu / Cu)
Insulation class	A
Connection form with MV switchgear	Cable
MV Switchgear	
Type of insulate	SF6 (Optional: SF6-Free)
Rated voltage	12 - 40.5 kV
Rated current	630 A
Internal arcing fault	20 kA / 1 s
Qty of feeder	3 feeders
Protection	
LV surge protection	AC type I + II
AC input protection	Circuit breaker
Transformer protection	Oil-temperature, oil-level, oil-pressure
Fire protection	Smoke detection, emergency lighting
General Data	
Dimensions (W*H*D)	6058 × 2896 × 2438 mm
Approximate weight	16.6 T
Operating ambient temperature range	-25 ~ +60°C
Max. operation altitude	2000 m
Auxiliary power supply	5 kVA / 230 V (Optional: max. 50 kVA)
UPS	1 kVA 30 min (Optional: max. 2 kVA 2h)
Degree of protection	IP54
Anti-corrosion Class	C4-H (Optional: C5-M)
Allowable relative humidity range	0 - 95%
Communication	RS485, Ethernet, Optical fiber
Compliance	IEC 60076, IEC 62271, IEC61439

بازگشت

تماس با پشتیبانی

NOURA TECH

solis

DATASHEET	Solis-9100-MV
Models	**Solis-9100-MV**
LV panel	
MCCB specification	400 A / 800 Vac / 3P, 14 × 2 pcs
ACB specification	4000 A / 800 Vac / 3P, 1 × 2 pcs
Connection form with transformer	Copper busbar
Transformer	
Transformer type	Oil immersed
Rated output power	9100 kVA @ 40°C
Max. output power	9800 kVA @ 30°C
LV / MV voltage	0.8 kV / 10 - 35 kV
Max. input current	3536 A × 2
Tapping on HV	±2 × 2.5%
Vector group	Dy11y11
Frequency	50 Hz / 60 Hz
Cooling type	ONAN
Impedance	9.5% (±10%)
Oil type	Mineral oil (Optional: plant oil)
Winding material	Al / Al (Optional: Cu / Cu)
Insulation class	A
Connection form with MV switchgear	Cable
MV Switchgear	
Type of insulate	SF6 (Optional: SF6-Free)
Rated voltage	12 - 40.5 kV
Rated current	630 A
Internal arcing fault	20 kA / 1 s
Qty of feeder	3 feeders
Protection	
LV surge protection	AC type I + II
AC input protection	Circuit breaker
Transformer protection	Oil-temperature, oil-level, oil-pressure
Fire protection	Smoke detection, emergency lighting
General Data	
Dimensions (W × H × D)	6058 × 2896 × 2438 mm
Approximate weight	23.5 T
Operating ambient temperature range	-25 ~ +60°C
Max. operation altitude	2000 m
Auxiliary power supply	5 kVA / 230 V (Optional: max. 50 kVA)
UPS	1 kVA 30 min (Optional: max. 2 kVA 2h)
Degree of protection	IP54
Anti-corrosion Class	C4-H (Optional: C5-M)
Allowable relative humidity range	0 - 95%
Communication	RS485, Ethernet, Optical fiber
Compliance	IEC 60076, IEC 62271, IEC61439

بازگشت

تماس با پشتیبانی

NOURA TECH

دفتـر مرکـزی: تهران، خیابـان دولـت، پـلاک ۳۰۸، ساختـمان پـارامـیس، واحـد ۲۰۳، ۳۰۴، ۶۰۴

واحد R&D: تهران، نارمک، خیابان شهید ملک لو، خیابان شهید حیدرخانی، دانشگاه علم و صنعت

دفتـر مرکـزی: ۰۲۱-۲۱۰۰۰۴۷۷

واحد R&D: ۰۲۱-۷۳۲۲۵۶۱۳

Info@noura-tech.com

استعلام و سفارش گذاری خرید

بازگشت

NOURA TECH

توجـــــه

در صورت غیر فعال بودن دکـــمه‌ها در سیستم عامل اندروید،
حتما اپلیکیشن GoogleDrive خود را به روز رسانی نمایید.

If the buttons are disabled in the Android system,
Be sure to update your Google Drive app.

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Select **your language:**

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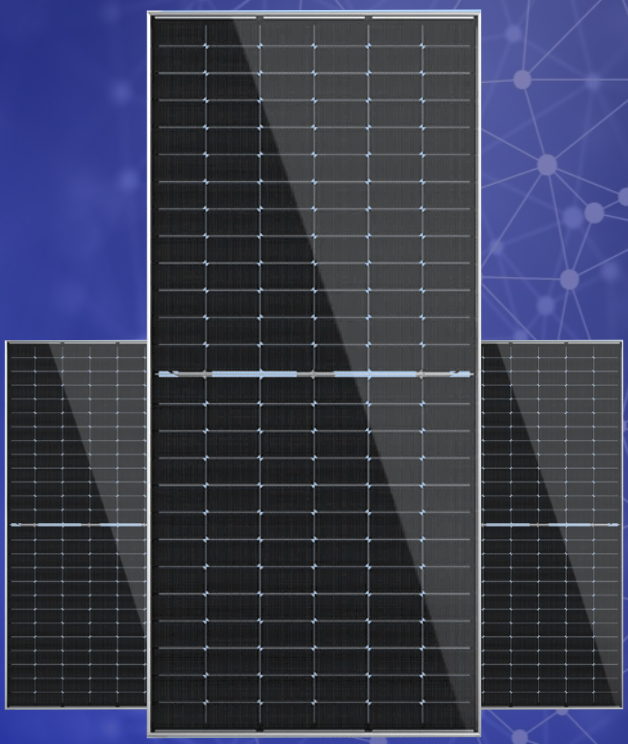
شروع

NouraTech Digi-Catalog / 2026

NOURA TECH



About Us

Products

Contact Us

Digi-Catalog / 2026

NOURA TECH

Pishgaman Energy Nouratech Company, relying on expert human capital and the support of prominent professors from the country's leading universities, is a specialized reference for supplying and providing solar energy equipment and products in the country. Nouratech, with the design, consulting, and implementation of more than 38 MW of solar power plant projects, as well as the supply and distribution of more than 290 MW of solar panels and 210 MW of inverters from reputable global brands, is among the largest suppliers of solar energy equipment in the country and offers high-efficiency, dedicated solutions for various industries, numerous businesses, residential and office complexes and houses, villas, etc.

- Design, consulting and implementation of solar power plants (EPC)
- Supply of equipment: various types of panels, inverters, structures and lithium batteries
- Design and implementation of On-Grid, Off-Grid and hybrid systems supervision, and complete commissioning of projects

38 MW

Volume of photovoltaic power plant projects

210 MW

Supply and sales volume of various inverters

290 MW

Solar panel supply and sales volume

Key Persons

Back

Awards and certificates

Business partners

NOURA TECH

NouraTech, in pursuing its objectives in the fields of energy, technology, and sustainable infrastructure development, is proud to cooperate with some of the most reputable organizations and companies in the country. Strategic collaborations with institutions such as SATBA (Renewable Energy and Energy Efficiency Organization of Iran), SATKA (Association of Manufacturers and Suppliers of Renewable Energy Products and Services)and Goldiran Logistics Company have played a significant role in enhancing service quality, expanding the supply network, and accelerating project execution. NouraTech regards these partnerships as a valuable asset and continuously seeks to develop these relationships based on mutual trust, accountability, and the creation of shared value.

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CERTIFICATE
THE MANAGEMENT SYSTEM OF
PISHGAMAN ENERGY NOURA TECH CO.
has been assessed and certified as meeting the requirements of
ISO 10004:2018
Customer satisfaction - Guidelines for monitoring and measuring
FOR THE FOLLOWING ACTIVITIES
Design services, consultancy, and supply of goods
Import and export of authorized goods
Solar Power plant engineering, procurement, and construction
CERTIFICATE REGISTRATION NO.: QMS936804
ORIGINAL CERTIFICATION DATE: FEBRUARY 18, 2026
CURRENT CERTIFICATION DATE: FEBRUARY 18, 2026
CERTIFICATE EXPIRY DATE: FEBRUARY 18, 2029
THIS CERTIFICATE REMAINS VALID SUBJECT TO SATISFACTORY SURVEILLANCE AUDITS.
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info@eiqmcert.com
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IMS
ISO 9001:2015 , ISO 14001:2015 , ISO 45001:2018
FOR THE FOLLOWING ACTIVITIES
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Import and export of authorized goods
Solar Power plant engineering, procurement, and construction
CERTIFICATE REGISTRATION NO.: QMS936803
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ISO 21500:2021
Guidance on project management
FOR THE FOLLOWING ACTIVITIES
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Import and export of authorized goods
Solar Power plant engineering, procurement, and construction
CERTIFICATE REGISTRATION NO.: QMS936805
ORIGINAL CERTIFICATION DATE: FEBRUARY 18, 2026
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ISO 10006:2017
Guidelines for quality management in projects
FOR THE FOLLOWING ACTIVITIES
Design services, consultancy, and supply of goods
Import and export of authorized goods
Solar Power plant engineering, procurement, and construction
CERTIFICATE REGISTRATION NO.: QMS936806
ORIGINAL CERTIFICATION DATE: FEBRUARY 18, 2026
CURRENT CERTIFICATION DATE: FEBRUARY 18, 2026
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NOURA TECH

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ISO 45001:2018

Occupational health and safety management system

FOR THE FOLLOWING ACTIVITIES

Design services, consultancy, and supply of goods
Import and export of authorized goods
Solar Power plant engineering, procurement, and construction

CERTIFICATE REGISTRATION NO.: QM5936802
ORIGINAL CERTIFICATION DATE: FEBRUARY 18, 2026
CURRENT CERTIFICATION DATE: FEBRUARY 18, 2026
CERTIFICATE EXPIRY DATE: FEBRUARY 18, 2029
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CERTIFICATION SERVICES

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has been assessed and certified as meeting the requirements of

ISO 9001:2015

Quality management system

FOR THE FOLLOWING ACTIVITIES

Design services, consultancy, and supply of goods
Import and export of authorized goods
Solar Power plant engineering, procurement, and construction

CERTIFICATE REGISTRATION NO.: QM5936800
ORIGINAL CERTIFICATION DATE: FEBRUARY 18, 2026
CURRENT CERTIFICATION DATE: FEBRUARY 18, 2026
CERTIFICATE EXPIRY DATE: FEBRUARY 18, 2029
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verified

گواهی عضویت
Certificate of Membership

Company Name: PISHGAMAN ENERGY NOURA TECH

Type of Company: Private Joint Stock
Type of Card: Legal
Group of Activity: Business
Address: TEHRAN IRAN

Secretary General

IREA

گواهی عضویت
CERTIFICATE OF MEMBERSHIP

بدین وسیله گواهی میشود
شرکت پیشگامان انرژی نورا تک

This is to certify that
Pishgaman Energy Noura Tech Company

is the member of IRRENA and has All the related rights and benefits of membership during the period membership. This certificate is valid for one year from the date of issuance.

Date of issue: 6 September 2025

SATKA

Date of Issue: Aug. 2025
Valid up to: Aug. 2026

گـــواهی عضـــویت
Certificate of Membership

This is to certify that
Noura Tech Co.
with Registration No: 625049

شرکت پیشگامان انرژی نورا تک

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Back

NOURA TECH

CEO: Hessam Kazari

- PhD, Electrical Power Engineering, Sharif University of Technology
- Faculty member, Iran University of Science and Technology
- Visiting Researcher, Imperial College London
- Founder, shareholder and consultant of 3 knowledge-based companies (in the electricity and energy industry)

Chairman of the Board: Hamed Najafi

- PhD in Economics, Allameh Tabatabaei University
- Lecturer, Faculty of Management, University of Tehran
- Founder, CEO and shareholder of Mabna Company
- Owner and operator of a 14 MW solar power plant in the Payam Special Economic Zone

---

Vice Chairman of the Board: Abbass KhaleghiTabar

- DBA, University of Tehran
- Director of Planning, Trade Development Organization Of Iran
- CEO, Business Training Center of IMI Ministry of iran
- President, University of Applied Sciences and Technology, Commerce Branch
- Director, DBA Program, University of Tehran

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NOURA TECH

Board Member: Fatemeh Seyyed Salehi

- PhD, Artificial Intelligence, Sharif University of Technology
- Visiting Scholar, UC Berkeley
- Faculty member, Sharif University of Technology
- AI Consultant, MCI Company
- AI Consultant, Refah Bank

Sales Manager: Mohammad mohammadi ghahroudi

- Master of Science in Renewable Energy Engineering
- More than 15 years of experience in the field of solar power plants
- Designer, More than 800 MW Pr PowerPlants
- Member of Committee, Iran's PV Regulations standard

Other colleagues:

Cooperation with more than 23 professional managers and experts in the fields of consulting, design, supply, sales, installation, commissioning and after-sales service in the entire chain of solar products and equipment.

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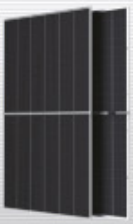
NOURA TECH

Product Selection:

LFP Battery

Inverter



Solar Module

Accessories

DC Cable

Soiling Loss Measurement

Structure

MV Station

Coming Soon ...

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Contact support

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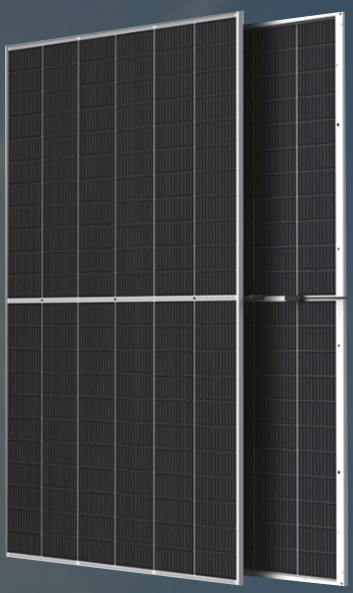

Solar Module

Brand Selection:

JinKO Solar

Trinasolar

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Contact support

Class Selection:

- Utility / 700+ W
- Industrial / 600+ W
- Household / 400+ W

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Contact support

NOURA TECH

JinKO Solar

Tiger Bifacial
450-470 Watt

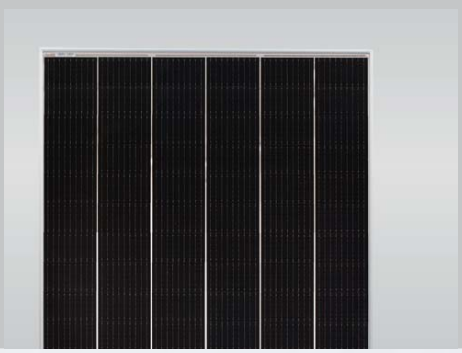
Tiling Ribbon (TR) Technology

Positive power tolerance of 0~+3%

ISO9001:2015, ISO14001:2015, ISO45001:2018 certified factory

IEC61215, IEC61730 certified product

N-Type



KEY FEATURES

TR technology + Half Cell
TR technology with Half cell aims to eliminate the cell gap to increase module efficiency (mono-facial up to 20.65%)

Low Light Induced Degradation
The N-type cell shows extremely low light induced degradation (LID) performance when comparing with the P-type cell.

9BB instead of 5BB
9BB technology decreases the distance between bus bars and finger grid line which is benefit to power increase.

Higher lifetime Power Yield
1% first year degradation,
0.4% linear degradation

Best Warranty
15 year product warranty,
30 year linear power warranty

Better low-light performance
Excellent performance in low-light environments
(e.g. early morning, dusk, and cloud, etc.)

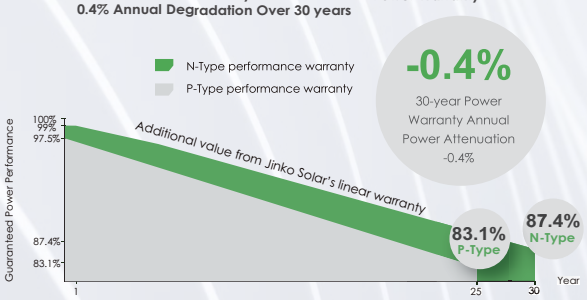
Severe Weather Resilience
Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).

PV CYCLE · TÜVRheinland CERTIFIED · CE

POSITIVE QUALITY™ Continuous Quality Assurance · CLEAN ENERGY COUNCIL MEMBER

LINEAR PERFORMANCE WARRANTY

15 Year Product Warranty 30 Year Linear Power Warranty
0.4% Annual Degradation Over 30 years



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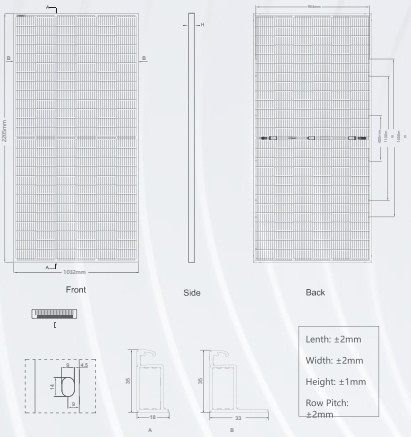
Technical Specifications

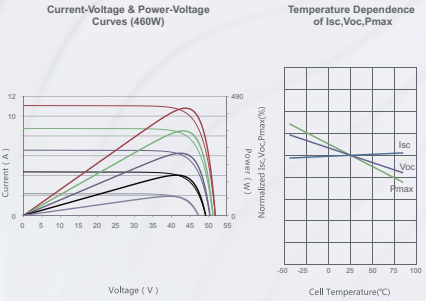
NOURA TECH

JinKO Solar

Engineering Drawings



Electrical Performance & Temperature Dependence



Packaging Configuration

(Two pallets = One stack)

31pcs/pallets, 62pcs/stack, 620pcs/ 40'HQ Container

Mechanical Characteristics

Cell Type	N type Mono-crystalline
No.of cells	156 (2×78)
Dimensions	2205×1032×35mm (86.81×40.63×1.38 inch)
Weight Front	25.0 kg (55.12 lbs)
Glass	3.2mm,Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP67 Rated
Output Cables	TUV 1×4.0mm² (+): 250mm , (-): 150 mm or CustomizedLength

SPECIFICATIONS

Module Type	JKM450N-7RL3-TV		JKM455N-7RL3-TV		JKM460N-7RL3-TV		JKM465N-7RL3-TV		JKM470N-7RL3-TV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	450Wp	336Wp	455Wp	339Wp	460Wp	343Wp	465Wp	347Wp	470Wp	350Wp
Maximum Power Voltage (Vmp)	43.48V	40.04V	43.54V	40.15V	43.60V	40.26V	43.66V	40.36V	43.72V	40.47V
Maximum Power Current (Imp)	10.35A	8.38A	10.45A	8.45A	10.55A	8.52A	10.65A	8.59A	10.75A	8.66A
Open-circuit Voltage (Voc)	51.70V	48.80V	51.80V	48.89V	51.90V	48.99V	52.00V	49.08V	52.10V	49.18V
Short-circuit Current (Isc)	11.07A	8.94A	11.16A	9.01A	11.25A	9.09A	11.34A	9.16A	11.43A	9.23A
Module Efficiency STC (%)	19.78%		20.00%		20.21%		20.43%		20.65%	
Operating Temperature(℃)	-40℃~+85℃									
Maximum system voltage	1500VDC (IEC)									
Maximum series fuse rating	25A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.34%/℃									
Temperature coefficients of Voc	-0.28%/℃									
Temperature coefficients of Isc	0.048%/℃									
Nominal operating cell temperature (NOCT)	45±2℃									
Refer. Bifacial Factor	85±5%									

BIFACIAL OUTPUT-REARSIDE POWER GAIN

5%	Maximum Power (Pmax)	473Wp	478Wp	483Wp	488Wp	494Wp
	Module Efficiency STC (%)	20.76%	20.99%	21.23%	21.46%	21.69 %
15%	Maximum Power (Pmax)	518Wp	523Wp	529Wp	535Wp	541Wp
	Module Efficiency STC (%)	22.74%	22.99%	23.25%	23.50%	23.75 %
30%	Maximum Power (Pmax)	585Wp	592Wp	598Wp	605Wp	611Wp
	Module Efficiency STC (%)	25.71%	25.99%	26.28%	26.56%	26.85 %

*STC: Irradiance 1000W/m² Cell Temperature 25°C AM=1.5

NOCT: Irradiance 800W/m² Ambient Temperature 20°C AM=1.5 Wind Speed 1m/s

*Power measurement tolerance: ± 3%

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Contact support

NOURA TECH

JinKO Solar

TIGER Neo

66HL4M-BDV

605-630 Watt

BIFACIAL MODULE WITH DUAL GLASS

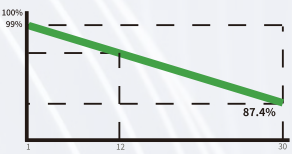
N-type

N-Type Technology

N-Type modules with Tunnel Oxide Passivating Contacts (TOPcon) technology offer lower LID/LeTID degradation and better low light performance.

HOT 3.0 Technology

N-type modules with JinkoSolar's HOT 3.0 technology offer better reliability and efficiency.



12Year Product Warranty | **30**Year Linear Power Warranty | **1**% First-year Degradation | **0.40**% Annual Degradation Over 30 Years

Dual-Sided Power Generation

Dual-sided power generation gain increases with backside exposure to light, significantly reducing LCOE.

Mechanical Load Enhanced

Certified to withstand:
5400 Pa front side max static test load
2400 Pa rear side max static test load

- IEC61215:2021 / IEC61730:2023
- IEC61701 / IEC62716 / IEC60068 / IEC62804
- ISO9001:2015: Quality Management System
- ISO14001:2015: Environment Management System
- ISO45001:2018: Occupational health and safety management systems

SMBB Technology

Better light trapping and current collection to improve module power output and reliability.

Anti-PID Guarantee

Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control.

CLEAN ENERGY COUNCIL MEMBER

POSITIVE QUALITY™ Continuous Quality Assurance

JKM605-630N-66HL4M-BDV-F3-EN

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Technical Specifications

NOURA TECH

JinKO Solar

Mechanical Characteristics

Cell Type	N- type Mono-crystalline
No. of cells	132（66×2）
Dimensions	2382×1134×30 mm
Weight	32.4 kg
Front Glass	2.0 mm, Anti-reflection Coating
Back Glass	2.0 mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Protection Class	Class II
IEC Fire Type	Class C
Connector Type	JK03M/MC4/Others
Output Cables	4.0 mm² (+): 400 mm , (-): 200 mm or Customized Length

Packaging Configuration

Pallet Dimentions	2396×1110×1251mm
Packing Detail (Two pallets = One stack)	36 pcs/pallets, 72 pcs/stack, 720 pcs/ 40'HQ Container

Specifications (STC)

Maximum Power - Pmax [Wp]	605	610	615	620	625	630
Maximum Power Voltage - Vmp [V]	40.31	40.46	40.60	40.74	40.88	41.02
Maximum Power Current - Imp [A]	15.01	15.08	15.15	15.22	15.29	15.36
Open-circuit Voltage - Voc [V]	48.48	48.68	48.88	49.08	49.28	49.48
Short-circuit Current - Isc [A]	15.90	15.96	16.02	16.08	16.14	16.20
Module Efficiency STC [%]	22.40	22.58	22.77	22.95	23.14	23.32
Power Tolerance	0 ~ + 3 %					
Temperature Coefficients of Pmax	-0.29 %/°C					
Temperature Coefficients of Voc	-0.25 %/°C					
Temperature Coefficients of Isc	0.045 %/°C					

STC: Irradiance 1000W/m², Cell Temperature 25°C, AM=1.5

Specifications (BNPI)

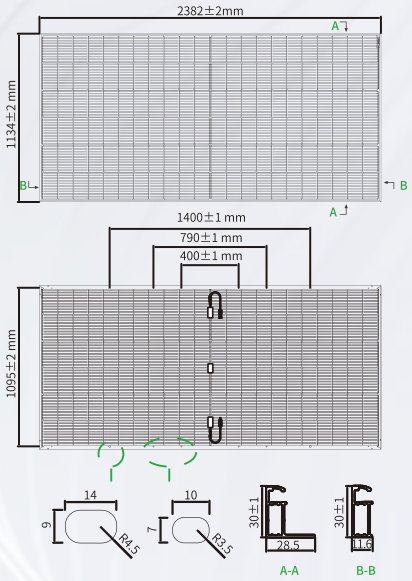
Maximum Power - Pmax [Wp]	668	674	679	685	690	696
Maximum Power Voltage - Vmp [V]	40.29	40.46	40.59	40.75	40.88	41.04
Maximum Power Current - Imp [A]	16.58	16.66	16.73	16.81	16.88	16.95
Open-circuit Voltage - Voc [V]	48.46	48.66	48.86	49.06	49.26	49.46
Short-circuit Current - Isc [A]	17.56	17.64	17.70	17.77	17.83	17.90

BNPI: Irradiance: front 1000W/m², rear 135W/m², Cell Temperature 25°C, AM=1.5

Application Conditions

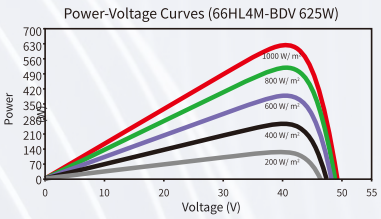
Operating Temperature	-40 °C ~ +70 °C
Maximum System Voltage	1500 VDC (IEC)
Maximum Series Fuse Rating	35 A
Bifaciality Coefficent	φVoc: 98±5 %, φIsc: 80±5 %, φPmax: 80±5 %

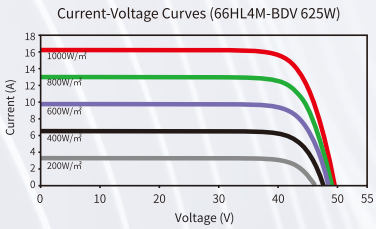
Engineering Drawings



Note: For specific dimensions and tolerance ranges, please refer to the corresponding detailed module drawings.

Electrical Performance





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NOURA TECH

JinKO Solar

TIGER Neo

66HL5-BDV

710-735 Watt

BIFACIAL MODULE WITH DUAL GLASS

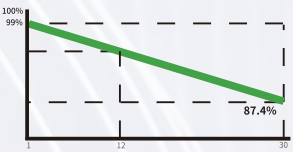
N-type

N-type Technology

N-type modules with Tunnel Oxide Passivating Contacts (TOPCon) technology offer lower LID/LeTID degradation and better low light performance.

HOT 3.0 Technology

N-type modules with JinkoSolar's HOT 3.0 technology offer better reliability and efficiency.



12 Year Product Warranty | **30** Year Linear Power Warranty | **1**% First-year Degradation | **0.40**% Annual Degradation Over 30 Years

Dual-Sided Power Generation

Dual-sided power generation gain increases with backside exposure to light, significantly reducing LCOE.

Mechanical Load Enhanced

Certified to withstand:
5400 Pa front side max static test load
2400 Pa rear side max static test load

- IEC61215:2021 / IEC61730:2023
- IEC61701 / IEC62716 / IEC60068 / IEC62804
- ISO9001:2015: Quality Management System
- ISO14001:2015: Environment Management System
- ISO45001:2018: Occupational health and safety management systems

SMBB Technology

Better light trapping and current collection to improve module power output and reliability.

Anti-PID Guarantee

Minimizes the chance of degradation caused by PID phenomena through optimization of cell production technology and material control.

JKM710-735N-66HL5-BDV-Z3-EN

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Technical Specifications

NOURA TECH

JinKO Solar

Mechanical Characteristics

Cell Type	N- type Mono-crystalline
No. of cells	132（66×2）
Dimensions	2384×1303×33 mm
Weight	37.5 kg
Front Glass	2.0 mm, Anti-Reflection Coating
Back Glass	2.0 mm, Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Protection Class	Class II
IEC Fire Type	Class C
Connector Type	JK03M/JK03M2/Others*
Output Cables (Including Connector)	4.0 mm^2 (+): 400 mm , (-): 200 mm or Customized Length

* MC4 and MC4-EVO2 available upon request and subject to availability

Packaging Configuration

Pallet Dimensions	1325×1121×2496 mm
Packing Detail (Two pallets = One stack)	33 pcs/pallets, 594 pcs/ 40'HQ Container

Specifications (STC)

Maximum Power - Pmax [Wp]	710	715	720	725	730	735
Maximum Power Voltage - Vmp [V]	40.65	40.77	40.89	41.00	41.11	41.23
Maximum Power Current - Imp [A]	17.47	17.54	17.61	17.69	17.76	17.83
Open-circuit Voltage - Voc [V]	48.73	48.88	49.04	49.20	49.36	49.52
Short-circuit Current - Isc [A]	18.53	18.60	18.67	18.74	18.81	18.88
Module Efficiency STC [%]	22.86	23.02	23.18	23.34	23.50	23.66
Power Tolerance	0 ~ + 3 %					
Temperature Coefficient of Pmax	-0.29 %/°C					
Temperature Coefficient of Voc	-0.25 %/°C					
Temperature Coefficient of Isc	0.045 %/°C					

STC: Irradiance 1000W/m^2, Cell Temperature 25°C, AM=1.5

Specifications (BNPI)

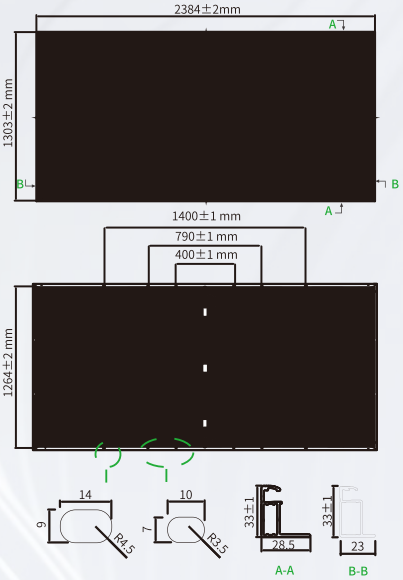
Maximum Power - Pmax [Wp]	784	790	795	800	805	810
Maximum Power Voltage - Vmp [V]	40.66	40.80	40.92	41.03	41.14	41.25
Maximum Power Current - Imp [A]	19.28	19.36	19.43	19.50	19.57	19.64
Open-circuit Voltage - Voc [V]	48.72	48.85	48.99	49.12	49.25	49.38
Short-circuit Current - Isc [A]	20.48	20.55	20.63	20.71	20.79	20.87

BNPI: Irradiance: front 1000W/m^2, rear 135W/m^2, Cell Temperature 25°C, AM=1.5

Application Conditions

Operating Temperature	-40 °C ~ +70 °C
Maximum System Voltage	1500 VDC (IEC)
Maximum Series Fuse Rating	35 A
Bifaciality Coefficents	φVoc: 98±5 %, φIsc: 80±5 %, φPmax: 80±5 %

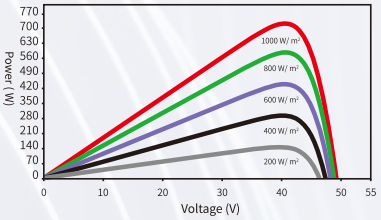
Engineering Drawings



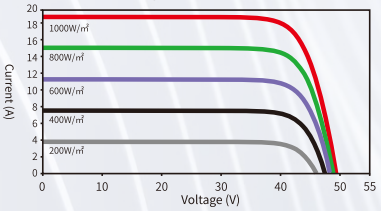
*Note: For specific dimensions and tolerance ranges, please refer to the corresponding detailed module drawings.

Electrical Performance

Power-Voltage Curves (66HL5-BDV 725W)



Current-Voltage Curves (66HL5-BDV 725W)



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Contact support

Class Selection:

- Utility / 700+ W
- Industrial / 600+ W
- Household / 400+ W

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Contact support

NOURA TECH

Trinasolar

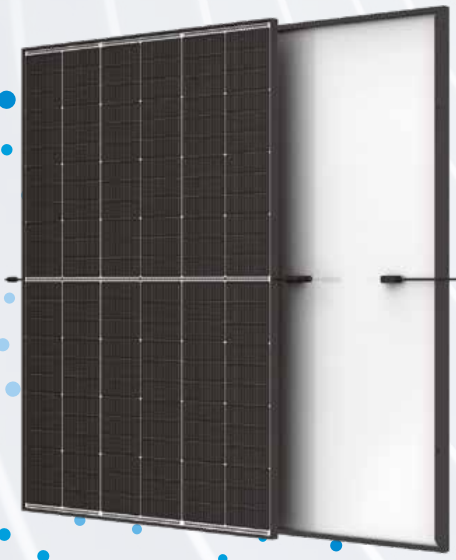
Vertex S+

DUAL GLASS N type i-TOPCon MODULE

PRODUCT: TSM-NEG9R.28

POWER RANGE: 425-450 W

450 W	0/+5 W	22.5 %
MAXIMUM POWER OUTPUT	POSITIVE POWER TOLERANCE	MAXIMUM EFFICIENCY



Small in size, bigger on power

- Generates up to 450 W, 22.5 % module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping, lower series resistance, improved current collection and enhanced reliability
- Reduces installation cost with higher power bin and efficiency

Dual-glass Design, High Reliability

- Excellent fire rating and resistance to harsh environmental conditions
- 5,400 Pa snow load and 4,000 Pa wind load (test loads)

Maximize Energy Harvest

- Up to 25 years product warranty and 30 years power warranty
- 1 % first-year degradation and 0.4 % annual degradation enabled by N-type technology

Universal solution for residential and C&I rooftops

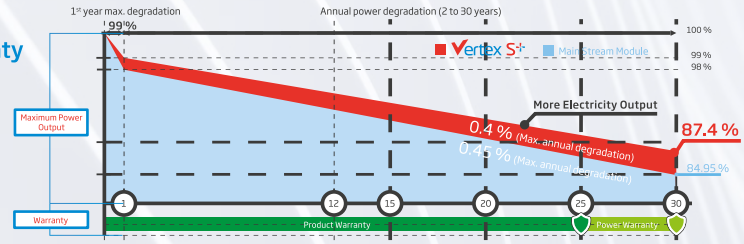
- Designed for compatibility with existing mainstream inverters, optimizers and mounting systems
- Perfect size and low weight for easy handling. Optimized transportation cost
- Flexible installation solutions for system deployment

Extended Vertex S+ Warranty

1 %
1st year max. degradation

0.4 %
Max. annual degradation from year 2 to 30

25 Years
Product Workmanship Warranty



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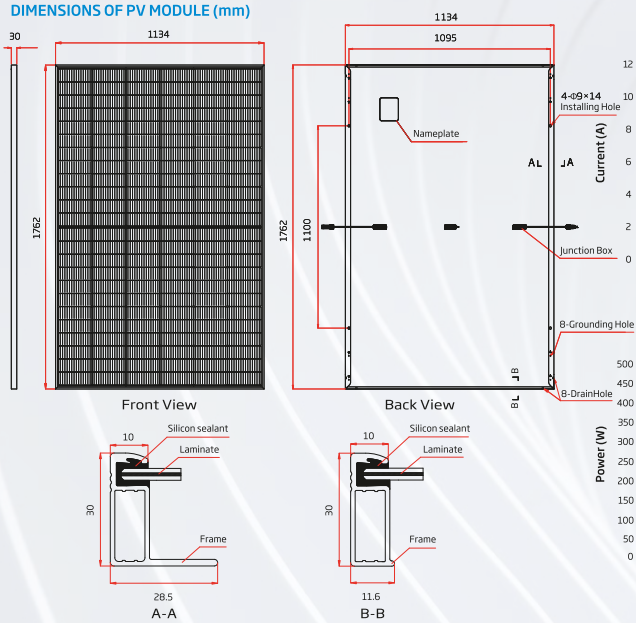
Technical Specifications

NOURA TECH

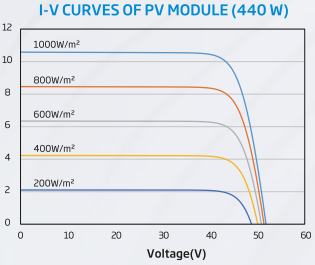
Trinasolar

Vertex S+

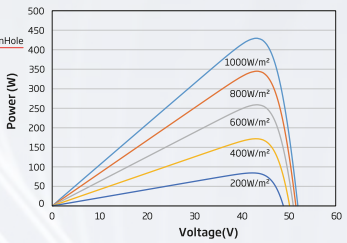
DIMENSIONS OF PV MODULE (mm)



I-V CURVES OF PV MODULE (440 W)



P-V CURVES OF PV MODULE (440 W)



ELECTRICAL DATA (STC)

	TSM-425 NEG9R.28	TSM-430 NEG9R.28	TSM-435 NEG9R.28	TSM-440 NEG9R.28	TSM-445 NEG9R.28	TSM-450 NEG9R.28
Peak Power Watts-PMAX (Wp)*	425	430	435	440	445	450
Power Tolerance-PMAX (W)	0/+5					
Maximum Power Voltage-VMPP (V)	42.9	43.2	43.6	44.0	44.3	44.6
Maximum Power Current-IMPP (A)	9.92	9.96	9.99	10.01	10.05	10.09
Open Circuit Voltage-VOC (V)	50.9	51.4	51.8	52.2	52.6	52.9
Short Circuit Current-ISC (A)	10.56	10.59	10.64	10.67	10.71	10.74
Module Efficiency η m (%)	21.3	21.5	21.8	22.0	22.3	22.5

STC: Irradiance 1000 W/m², Cell Temperature 25 °C, Air Mass AM 1.5. *Measuring tolerance: ±3 %.

ELECTRICAL DATA (NOCT)

	TSM-425 NEG9R.28	TSM-430 NEG9R.28	TSM-435 NEG9R.28	TSM-440 NEG9R.28	TSM-445 NEG9R.28	TSM-450 NEG9R.28
Maximum Power-PMAX (Wp)	324	328	332	335	339	343
Maximum Power Voltage-VMPP (V)	40.0	40.4	40.7	41.0	41.3	41.6
Maximum Power Current-IMPP (A)	8.09	8.11	8.15	8.17	8.20	8.24
Open Circuit Voltage-VOC (V)	48.2	48.7	49.1	49.4	49.8	50.1
Short Circuit Current-ISC (A)	8.51	8.53	8.57	8.60	8.63	8.65

MECHANICAL DATA

Solar Cells	Monocrystalline
No. of cells	144 cells
Module Dimensions	1762×1134×30 mm
Weight	21.0 kg
Front Glass	1.6 mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	POE/EVA
Back Glass	1.6 mm, Heat Strengthened Glass
Frame	30 mm Anodized Aluminium Alloy, Black
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0 mm² Landscape: 1100/1100 mm Portrait: 280/350 mm*
Connector	TS4 / MC4 EVO2*

*Special order only

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43 °C (±2 K)
Temperature Coefficient of PMAX	-0.30 %/ K
Temperature Coefficient of VOC	-0.24 %/ K
Temperature Coefficient of ISC	0.04 %/ K

MAXIMUM RATINGS

Operational Temperature	-40 to +85 °C
Maximum System Voltage	1500 V DC (IEC)
Max Series Fuse Rating	20 A

WARRANTY

25 year Product Workmanship Warranty

30 year Power Warranty

1 % first year degradation

0.4 % Annual Power Attenuation

PACKAGING CONFIGURATION

Modules per box:	36 pieces
Modules per 40ft container:	936 pieces

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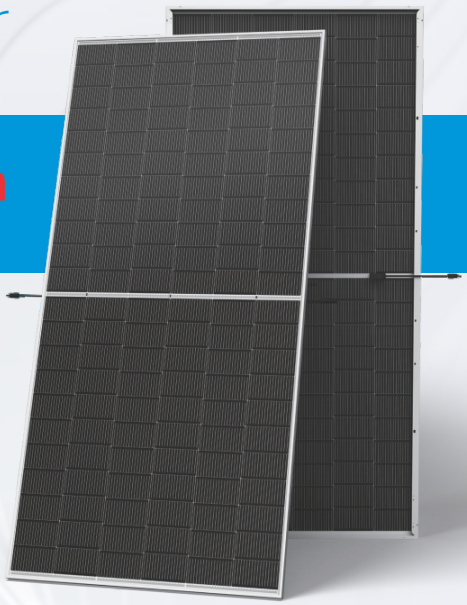
Contact support

NOURA TECH

Vertex N Trinasolar



N-type i-TOPCon Ultra

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

TSM-NEG19RC.20 **620-645W**

645W / MAXIMUM POWER OUTPUT

23.9% / MAXIMUM EFFICIENCY

High customer value

- Best partner of 1P tracker, with highest utilization of tracker length
- Low voltage design with higher string power, effectively reducing BOS (Balance of System) and LCOE (Levelized Cost of Energy) by 1%~5%
- Standardized module size with higher container space utilization effectively reduces the freight cost
- Excellent compatibility with existing mainstream system components
- Certified Low-Carbon Footprint

High power up to 645W

- Up to 23.9% module efficiency , on 210 innovation platform
- Patented i-TOPCon technology with continuous efficiency upgrade, including contact resistance reduction, rear reflection enhancement and edge quality repairment

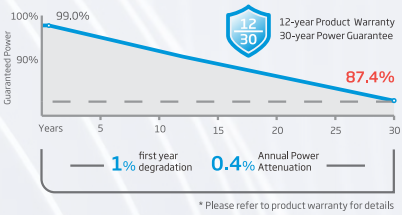
High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology and high-density packaging
- Reduced risks of hot-spot with half-cut technology
- Certified high resistance against salt, ammonia, sand, PID, LID, LeTID
- Sustainable in harsh environments and extreme weather conditions

High energy yield

- Excellent low irradiation performance, validated by 3rd party
- Lower temperature coefficient (-0.29%/°C)
- Higher bifaciality, with up to 10%~20% additional power gain from back side depending on albedo
- Reliable dual-glass structure with 30-year power guarantee

Performance Warranty



* Please refer to product warranty for details

Comprehensive Products and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716/UL61730
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupational Health and Safety Management System
ISO14067: Product Carbon Footprint Limited Assurance

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Technical Specifications

NOURA TECH

Trinasolar

ELECTRICAL DATA (STC & NOCT & BNPI)

Testing Condition	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI
Peak Power Watts-PMAX(Wp)*	620	473	687	625	477	692	630	481	698	635	487	704	640	489	709	645	492	715
Power Selection (W)**	0 ~ +5																	
Maximum Power Voltage-VMPP (V)	40.24	37.90	40.24	40.46	38.10	40.46	40.68	38.30	40.68	40.80	38.60	40.80	41.06	38.70	41.06	41.22	38.80	41.22
Maximum Power Current-IMPP (A)	15.41	12.47	17.07	15.45	12.52	17.12	15.49	12.57	17.16	15.55	12.60	17.23	15.60	12.67	17.28	15.65	12.70	17.34
Open Circuit Voltage-Voc (V)	48.50	46.10	48.50	48.70	46.30	48.70	48.90	46.50	48.90	49.10	46.60	49.10	49.30	46.80	49.30	49.52	47.00	49.52
Short Circuit Current-Isc (A)	16.26	13.10	18.02	16.32	13.15	18.08	16.38	13.20	18.15	16.44	13.25	18.22	16.51	13.30	18.29	16.55	13.33	18.34
Module Efficiency η m (%)	23.0			23.1			23.3			23.5			23.7			23.9		

STC: Irradiance 1000W/m2, Cell Temperature 25℃, Air Mass AM1.5. NOCT: Irradiance at 800W/m², Ambient Temperature 20℃, Wind Speed 1m/s. BNPI: Irradiance: front 1000W/m², rear 135W/m², Temperature 25℃, Air Mass AM1.5
*Measuring tolerance: ±3%. **Power selection up to: +3%.

Electrical characteristics with different power bin (reference to 5% & 10% backside power gain)

Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Peak Power Watts-PMAX(Wp)	651	682	656	688	662	693	667	699	672	704	677	710
Maximum Power Voltage-VMPP (V)	40.24	40.24	40.46	40.46	40.68	40.68	40.80	40.80	41.06	41.06	41.22	41.22
Maximum Power Current-IMPP (A)	16.18	16.95	16.22	17.00	16.26	17.04	16.33	17.11	16.38	17.16	16.43	17.22
Open Circuit Voltage-Voc (V)	48.50	48.50	48.70	48.70	48.90	48.90	49.10	49.10	49.30	49.30	49.52	49.52
Short Circuit Current-Isc (A)	17.07	17.89	17.14	17.95	17.20	18.02	17.26	18.08	17.34	18.16	17.38	18.21

Power Bifacility:80±5%.

TEMPERATURE RATINGS

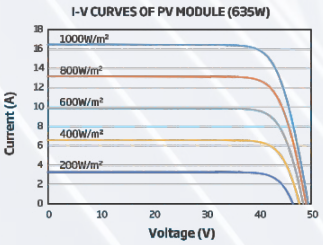
NOCT(Nominal Operating Cell Temperature)	43℃ (±2℃)
Temperature Coefficient of PMAX	- 0.29% /℃
Temperature Coefficient of Voc	- 0.24% /℃
Temperature Coefficient of Isc	0.04% /℃

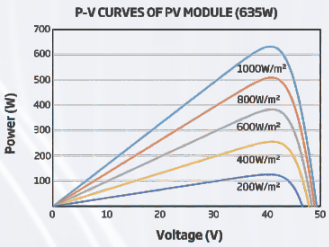
Due to different testing methods, the actual performances might differ from the declared specifications.

MAXIMUM RATINGS

Operational Temperature	-40~+85℃
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)
Max Series Fuse Rating	35A

CURVES OF PV MODULE

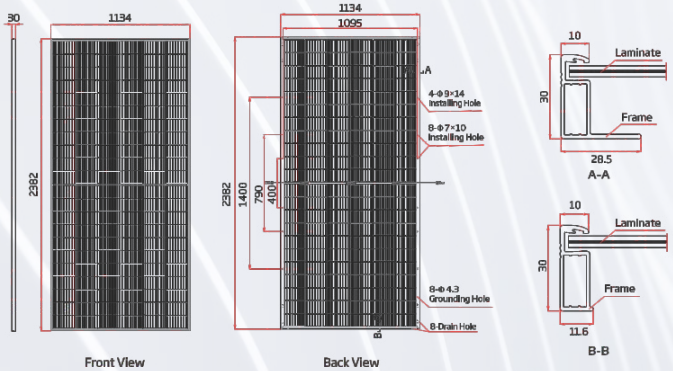




MECHANICAL DATA

Solar Cells	N-type i-TOPCon Monocrystalline
No. of cells	132 cells
Module Dimensions	2382×1134×30 mm (93.78×44.65×1.18 inches)
Weight	33.0 kg (72.8 lb)
Front Glass	2.0 mm (0.08 inches), AR Coating Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Coating)
Frame	30mm(1.18 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²) Portrait: 350/280 mm(13.78/11.02 inches) Length can be customized
Connector	MC4 EVO2 / TS4 Plus / TS4*
Packaging	Modules per box: 36 pieces Modules per 40ftcontainer: 720 pieces

*Please refer to regional datasheet for specified connector.



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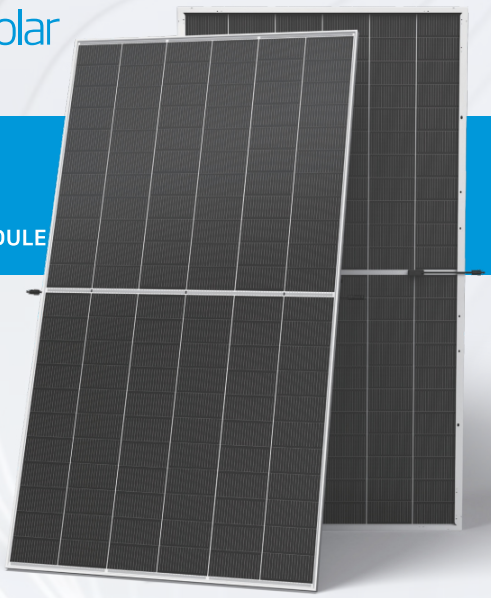
NOURA TECH

Vertex N Trinasolar



N-type i-TOPCon

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

TSM-NEG21C.20 **700-725W**

725W / MAXIMUM POWER OUTPUT

23.3% / MAXIMUM EFFICIENCY

High customer value

- Standardized module size with flagship module power, 35W higher compared with conventional technology
- Low voltage design with higher string power, effectively reducing BOS (Balance of System) and LCOE (Levelized Cost of Energy) by 2%~6%
- Higher container space utilization effectively reduces the freight cost
- Certified Low-Carbon Footprint
- The Star of LCOE

High power up to 725W

- Up to 23.3% module efficiency , on 210 innovation platform
- Patented i-TOPCon technology with continuous efficiency improvement, including contact resistance reduction, rear reflection enhancement and edge quality repairment

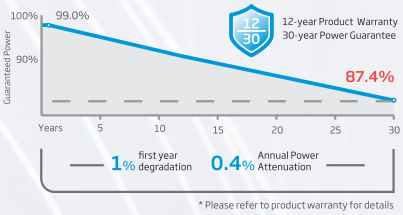
High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology and high-density packaging
- Reduced risks of hot-spot with half-cut technology
- Certified high resistance against salt, ammonia, sand, PID, LID, LeTID
- Sustainable in harsh environments and extreme weather conditions

High energy yield

- Excellent low irradiation performance, validated by 3rd party
- Lower temperature coefficient (-0.29%/°C)
- Higher bifaciality, with up to 10%~20% additional power gain from back side depending on albedo
- Reliable dual-glass structure with 30-year power guarantee

Performance Warranty



* Please refer to product warranty for details

Comprehensive Products and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupational Health and Safety Management System
ISO14067: Product Carbon Footprint Limited Assurance

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Technical Specifications

NOURA TECH

Trinasolar

ELECTRICAL DATA (STC & NOCT & BNPI)

Testing Condition	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI
Peak Power Watts-PMAX(Wp)*	700	534	776	705	540	781	710	543	787	715	547	792	720	551	798	725	555	801
Power Selection (W)**	0 ~ +5																	
Maximum Power Voltage-VMPP (V)	40.5	38.0	40.5	40.7	38.3	40.7	40.9	38.5	40.9	41.1	38.7	41.1	41.3	38.8	41.3	41.5	39.0	41.5
Maximum Power Current-IMPP (A)	17.29	14.04	19.15	17.33	14.08	19.19	17.36	14.12	19.23	17.40	14.14	19.28	17.44	14.19	19.32	17.47	14.23	19.36
Open Circuit Voltage-Voc (V)	48.6	46.1	48.6	48.8	46.3	48.8	49.0	46.5	49.0	49.2	46.7	49.2	49.4	46.9	49.4	49.6	47.1	49.6
Short Circuit Current-Isc (A)	18.32	14.76	20.30	18.36	14.80	20.34	18.40	14.83	20.39	18.44	14.86	20.43	18.49	14.90	20.49	18.54	14.94	20.54
Module Efficiency η m (%)	22.5			22.7			22.9			23.0			23.2			23.3		

STC: Irradiance 1000W/m2, Cell Temperature 25°C, Air Mass AM1.5. NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s. BNPI: Irradiance: front 1000W/m², rear 135W/m², Temperature 25
*Measuring tolerance: ±3%. **Power selection up to: +3%.

Electrical characteristics with different power bin (reference to 5% & 10% backside power gain)

Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Peak Power Watts-PMAX(Wp)	735	770	740	776	746	781	751	787	756	792	761	798
Maximum Power Voltage-VMPP (V)	40.5	40.5	40.7	40.7	40.9	40.9	41.1	41.1	41.3	41.3	41.5	41.5
Maximum Power Current-IMPP (A)	18.15	19.02	18.20	19.06	18.23	19.10	18.27	19.14	18.31	19.18	18.34	19.22
Open Circuit Voltage-Voc (V)	48.6	48.6	48.8	48.8	49.0	49.0	49.2	49.2	49.4	49.4	49.6	49.6
Short Circuit Current-Isc (A)	19.24	20.15	19.28	20.20	19.32	20.24	19.36	20.28	19.41	20.34	19.47	20.39

Power Bifaciality:80±5%.

TEMPERATURE RATINGS

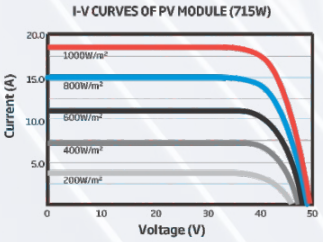
NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of PMAX	-0.29% /°C
Temperature Coefficient of Voc	-0.24% /°C
Temperature Coefficient of Isc	0.04% /°C

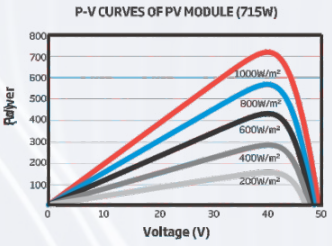
Due to different testing methods, the actual performances might differ from the declared specifications.

APPLICATION CONDITIONS

Operating Temperature	-40~+70°C
Maximum System Voltage	1500V DC (IEC)
	1500V DC (UL)
Max Series Fuse Rating	35A

CURVES OF PV MODULE

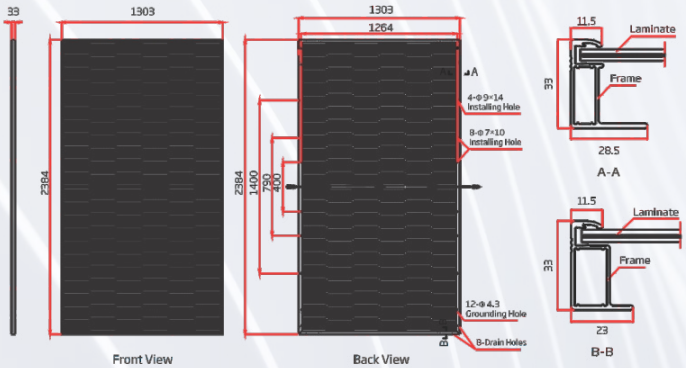




MECHANICAL DATA

Solar Cells	N-type i-TOPCon Monocrystalline
No. of cells	132 cells
Module Dimensions	2384×1303×33 mm (93.86×51.30×1.30 inches)
Weight	38.3 kg (84.4 lb)
Front Glass	2.0 mm (0.08 inches), AR Coating Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Coating)
Frame	33mm(1.30 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²) Portrait: 350/280 mm(13.78/11.02 inches) Length can be customized
Connector	MC4 EVO2 / TS4 Plus / TS4*
Packaging	Modules per box: 33 pieces Modules per 40ft container: 594 pieces

*Please refer to regional datasheet for specified connector.



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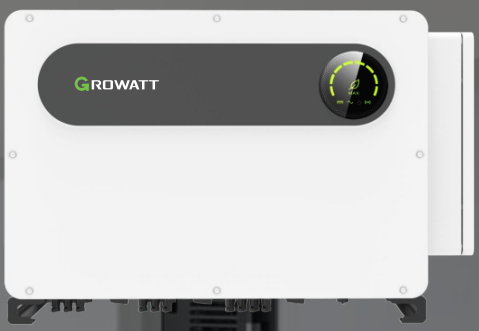

Inverter

Brand Selection:

GROWATT

solis

SUNGROW

HUAWEI

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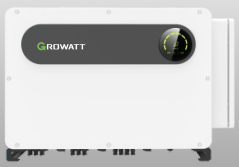
NOURA TECH

Inverter GROWATT

Type Selection:



On Grid

Max 100 - 125KTL3-XLV >

Off Grid

SPF 6000 ES Plus >

Hybrid

WIT 4-15K-HU >

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NOURA TECH

GROWATT

ON GRID

Datasheet	MAX 100KTL3-X LV	MAX 110KTL3-X LV	MAX 120KTL3-X LV	MAX 125KTL3-X LV
Input data (DC)				
Max. DC voltage	1100V			
Start voltage	195V			
Nominal voltage	600V			
MPP voltage range	180V-1000V			
No. of MPP trackers	10			
No. of PV strings per MPP tracker	2			
Max. input current per MPP tracker	32A			
Max. short-circuit current per MPP tracker	40A			
Output data (AC)				
AC nominal power	100000W	110000W	120000W	125000W
Max. AC apparent power	110000VA	121000VA	132000VA	137500VA
Nominal AC voltage (range*)	220V/380V, 230V/400V (340-440V)			
AC grid frequency (range*)	50/60 Hz(45~55Hz/55-65 Hz)			
Max. output current	158.8A@400V 167.1A@380V	174.6A@400V 183.8A@380V	190.5A@400V 200.5A@380V	198.5A@400V 208.9A@380V
Adjustable power factor	0.8leading ...0.8lagging			
THDi	<3%			
AC grid connection type	3W/N/PE			
Efficiency				
Max.efficiency	98.8%			
European efficiency	98.4%	98.5%	98.5%	98.5%
MPPT efficiency	99.9%			
Protection devices				
DC reverse polarity protection	Yes			
DC switch	Yes			
AC/DC surge protection	Type II / Type II			
Insulation resistance monitoring	Yes			
AC short-circuit protection	Yes			
Ground fault monitoring	Yes			
String detection	Yes			
Anti PID function	Optional			
Arc fault detection (AFCI)	Optional			
General data				
Dimensions (W / H / D)	970/640/345mm			
Weight	84kg			
Operating temperature range	–30°C ... +60°C			
Nighttime power consumption	< 1W			
Topology	Transformerless			
Cooling	Smart air cooling			
Protection degree	IP66			
Relative humidity	0~100%			
Altitude	4000m			
DC connection	H4/MC4 (Max.6mm²)			
AC connection	OT Terminal (Max. 240mm²)			
Display	LED/WIFI+APP			
Interfaces: RS485 / USB /PLC/GPRS/4G/WiFi	Yes/Yes/Optional/Optional/Optional/Optional			
Warranty: 5 years / 10 years	Yes /Optional			
CE, UKCA, IEC62116, IEC61727, CQC, VDE0126, VFR2019, EN50549-1/-2, C10/C11, UNE206007, G99 CEI 0-21/0-16, N4105, UNE206006,MEA, PEA, KSC8565				

* The AC voltage range and frequency range may vary depending on specific country grid standard.
All specifications are subject to change without notice.

NOURA TECH

GROWATT

OFF GRID

Datasheet	SPF 6000 ES Plus
Battery voltage	48VDC
Battery type	Lithium/Lead-acid
Inverter output	
Rated power	6000VA/6000W
Parallel capability	Yes, 6 units maximum
AC voltage regulation (battery mode)	230VAC ± 5% @ 50/60Hz
Surge power	12000VA
Efficiency (peak)	93%
Waveform	Pure sine wave
Transfer time	10ms typical, 20ms Max
Solar charger	
Maximum PV array power	8000W
MPPT range @ operating voltage	120VDC ~ 450VDC
Number of independent MPP trackers/ strings per MPP tracker	2/1
Max. input current per MPP tracker	16A
Maximum PV array open circuit voltage	500VDC
Maximum solar charge current	100A
AC charger	
Charge current	80A
AC input voltage	230VAC
Selectable voltage range	170-280 VAC (For personal computers) ; 90-280 VAC (For home appliances)
Frequency range	50Hz/60Hz (Auto sensing)
Physical	
Protection degree	IP20
Dimension (W/H/D)	460/395/132mm
Net weight	13.5kg
Operating environment	
Humidity	5% to 95% Relative humidity (Non-condensing)
Altitude	<2000m
Operating temperature	0°C - 55°C
Storage temperature	-15°C - 60°C

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NOURA TECH

GROWATT

HYBRID

Datasheet	WIT 4K-HU	WIT 5K-HU	WIT 6K-HU	WIT 8K-HU	WIT 10K-HU	WIT 12K-HU	WIT 15K-HU
Input data (PV)							
Max. recommended PV power (for module STC)	6400W	8000W	9600W	12800W	16000W	19200W	24000W
Max. input voltage	1000V						
Start voltage	180V						
Nominal voltage	600V						
MPPT voltage range	150V-850V						
Max. input current per MPP tracker	40A			20A		40A	
Max. short-circuit current per MPP tracker	50A			25A		50A	
No. of PV strings per MPP tracker	2			1		2/1	
No. of MPP trackers	1			2		2	
Input/Output AC (Including the Gen Port)							
AC input/output nominal power(Grid)	8000W/4000W	10000W/5000W	12000W/6000W	16000W/8000W	20000W/10000W	24000W/12000W	30000W/15000W
Max. AC input/output apparent power(Grid)	8800VA/4400VA	11000VA/5500VA	13200VA/6600VA	17600VA/8800VA	22000VA/11000VA	26400VA/13200VA	33000VA/16500VA
Max. input/output current(Grid)	13.4A/6.7A	16.7A/8.4A	20.0A/10.0A	26.6A/13.3A	33.3A/16.7A	40.0A/20.0A	50.1A/25.0A
Max. input current(GEN/AC couple)	12.2A	15.2A	18.2A	24.2A	30.4A	36.4A	45.4A
Max. continuous AC passthrough current	50.1A						
Nominal AC voltage/range	220V/380V, 230V/400V, –15%~+10%						
Nominal AC grid frequency/range	50/60Hz, 45~55Hz/55~65 Hz						
Adjustable power factor	–1…+1						
THDi	<3%						
AC grid connection type	3P3W+PE/3P4W+PE						
Battery data (DC)							
Battery type	Lead-acid or Lithium-ion						
Battery voltage range/Rated voltage	40-60V/51.2V						
Max charging and discharging current	110A	125A	150A	200A	220A	250A	290A
BMS communication	RS485/CAN						
Backup power (AC)*							
Rated AC output power	4000W	5000W	6000W	8000W	10000W	12000W	15000W
Max. AC apparent power	2 time of rated power, 10s						
Rated AC output voltage	220V/380V, 230V/400V						
Nominal AC output frequency	50/60Hz						
Max. output current	12.2A@220V 11.6A@230V	15.2A@220V 14.4A@230V	18.2A@220V 20.0A@230V	24.2A@220V 23.2A@230V	30.3A@220V 29A@230V	36.4A@220V 34.8A@230V	45.5A@220V 43.4A@230V
THDv	3% (Linear load)						
Load unbalance	100% three-phase unbalanced						
On/off grid transfer time	10ms						
Efficiency							
Max. efficiency	97.60%						
European efficiency	97.00%						
MPPT efficiency	99.90%						
Protection devices							
PV reverse polarity protection	Yes						
DC switch	Yes						
DC/AC surge protection	Type II/Type II						
Insulation resistance monitoring	Yes						
Residual-current monitoring unit	Yes						
AC short-circuit protection	Yes						
Ground fault monitoring	Yes						
Grid monitoring	Yes						
Strings monitoring	Yes						
Anti-islanding protection	Yes						
PID protection	Opt						
AFCI function	Opt						
General							
Dimensions (W / H / D)	475/698/240mm						
Weight	43kg						
Operating temperature range	–30°C ... +60°C (> 45°C, derating)						
Noise	≤50dB(A)						
Relative humidity	0~100%						
Altitude	3000m						
Topology	Transformerless						
Cooling	Smart air cooling						
IP degree	IP66						
Display	OLED/LED+APP						
Interfaces: RS485/USB	Yes						
Interfaces: WIFI/LAN	Yes						
Warranty (5/10 years)	Yes/Opt						
IEC62109, EC 61000, IEC 61727, EC 62116, IEC 61683, IEC 60068, EN 50549, VDE 4105							

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NOURA TECH

Inverter solis

Type Selection:

On Grid

80 - 125K >

On Grid

250 - 255K >

On Grid

350K >

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NOURA TECH

solis

DATASHEET

S6-GC(80-125)K

ON GRID

Models	80K	100K	110K	125K	125K-HV
Input DC					
Max. input voltage	1100 V				
Rated voltage	600 V				720 V
Start-up voltage	180 V				
MPPT voltage range	160 - 1000 V				
Max. input current	4 × (42 A / 36 A)	5 × (42 A / 36 A)			
Max. short circuit current	8 × 50 A	10 × 50 A			
MPPT number / Max. input strings number	8 / 16	10 / 20			
Output AC					
Rated output power	80 kW	100 kW	110 kW	125 kW	125kW
Max. apparent output power	88 kVA	110 kVA	121 kVA	125 kVA	137.5 kVA
Max. output power	88 kW	110 kW	121 kW	125 kW	137.5 kW
Rated grid voltage	3/N/PE, 220 V / 380 V, 230 V / 400 V				3/PE, 480 V
Rated grid frequency	50 Hz / 60 Hz				
Rated grid output current	121.6 A / 115.5 A	152.0 A / 144.3 A	167.1 A / 158.8 A	189.9 A / 180.4 A	150.4 A
Max. output current	133.7 A	167.1 A	183.8 A	189.9 A	165.4 A
Power factor	> 0.99 (0.8 leading - 0.8 lagging)				
THDi	< 3%				
Efficiency					
Max. efficiency	98.7%				
EU efficiency	98.3%				
Protection					
DC reverse-polarity protection	Yes				
Short circuit protection	Yes				
Output over current protection	Yes				
Surge protection	DC Type II / AC Type II				
Grid monitoring	Yes				
Anti-islanding protection	Yes				
Temperature protection	Yes				
Strings monitoring	Yes				
I/V Curve scanning	Yes				
Integrated AFCI 2.0	Optional				
Integrated PID recovery	Optional				
Integrated DC switch	Yes				
Integrated AC switch	Optional				
General Data					
Dimensions (W × H × D)	1014 × 567 × 345 mm				
Weight	93 kg	96 kg			
Topology	Transformerless				
Self-consumption (night)	< 2 W				
Operating ambient temperature range	-30 ~ +60°C				
Relative humidity	0 - 100%				
Ingress protection	IP66				
Cooling concept	Intelligent fan-cooling				
Max. operation altitude	4000 m				
Grid connection standard	G99, IEC61727, EN50549-1/2, VDE4110				
Safety / EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-2/-4				
Features					
DC connection	MC4 connector				
AC connection	OT terminal (max. 240 mm^2)				
Display	LCD				
Communication	RS485, Optional: Wi-Fi, GPRS, PLC				

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NOURA TECH

solis

DATASHEET

Solis-(250-255)K-EHV-5G-PLUS

ON GRID

Models	250K	255K
Input DC		
Max. input voltage	1500 V	
Rated voltage	1080 V	
Start-up voltage	500 V	
MPPT voltage range	480 - 1500 V	
Max. input current	12 × 30 A	
Max. short circuit current	12 × 50 A	
MPPT number / Max. input strings number	12 / 24	
Output AC		
Output power	250 kVA@30°C / 235 kVA@40°C / 220 kVA@50°C	255 kVA@30°C / 235 kVA@40°C / 220 kVA@50°C
Rated grid voltage	3/PE, 800 V	
Grid voltage range	640 - 920 V	
Rated grid frequency	50 Hz / 60 Hz	
Max. output current	180.4 A	184.0 A
Power factor	> 0.99 (0.8 leading - 0.8 lagging)	
THDi	< 3%	
Efficiency		
Max. efficiency	99.0%	
EU efficiency	98.8%	
Protection		
DC reverse-polarity protection	Yes	
Short circuit protection	Yes	
Output over current protection	Yes	
Surge protection	DC Type II / AC Type II	
Grid monitoring	Yes	
Anti-islanding protection	Yes	
Temperature protection	Yes	
Strings monitoring	Yes	
I/V Curve scanning	Yes	
Night time SVG function	Yes	
Integrated PID recovery	Yes	
Integrated DC switch	Yes	
General Data		
Dimensions (W × H × D)	1125 × 770 × 384 mm	
Weight	113 kg	
Topology	Transformerless	
Self-consumption (night)	< 2 W	
Operating ambient temperature range	-30 ~ +60°C	
Relative humidity	0 - 100%	
Ingress protection	IP66	
Cooling concept	Intelligent fan-cooling	
Max. operation altitude	4000 m	
Grid connection standard	EN50549, G99, AS4777.2, VDE0126, IEC61727, VDE4110, CEA 2019	
Safety / EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-2/-4	
Features		
DC connection	MC4 connector	
AC connection	OT terminal (max. 300 mm^2)	
Display	LCD	
Communication	RS485, Optional: PLC	

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NOURA TECH

solis

DATASHEET

ON GRID

Models	350K
Input DC	
Max. input voltage	1500 V
Rated voltage	1080 V
Start-up voltage	500 V
MPPT voltage range	480 - 1500 V
Max. input current	6 × 80 A
Max. short circuit current	6 × 125 A
MPPT number / Max. input strings number	6 / 30
Output AC	
Rated output power	350 kW
Max. apparent output power	350 kVA
Rated grid voltage	3/PE, 800 V
Grid voltage range	640 - 920 V
Rated grid frequency	50 Hz / 60 Hz
Max. output current	252.6 A
Power factor	> 0.99 (0.8 leading - 0.8 lagging)
THDi	< 3%
Efficiency	
Max. efficiency	99.0%
EU efficiency	98.7%
Protection	
DC reverse-polarity protection	Yes
Short circuit protection	Yes
Output over current protection	Yes
Surge protection	DC Type II / AC Type II
Grid monitoring	Yes
Anti-islanding protection	Yes
Temperature protection	Yes
Strings monitoring	Yes
I/V Curve scanning	Yes
Night time SVG function	Yes
Integrated PID recovery	Yes
Integrated DC switch	Yes
General Data	
Dimensions (W × H × D)	1098 × 813 × 378.5 mm
Weight	117 kg
Topology	Transformerless
Self-consumption (night)	< 3 W
Operating ambient temperature range	-30 ~ +60°C
Relative humidity	0 - 100%
Ingress protection	IP66
Cooling concept	Intelligent fan-cooling
Max. operation altitude	4000 m
Grid connection standard	EN50549, G99, AS4777.2, VDE0126, IEC61727, VDE4110, CEA 2019
Safety / EMC standard	IEC62109-1/-2, EN61000-6-2/-4
Features	
DC connection	Matching connector
AC connection	OT terminal (max. 400 mm^2)
Display	LED indicator & Bluetooth + APP
Communication	RS485, Optional: PLC

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NOURA TECH

Inverter SUNGROW

Type Selection:

On Grid

SG125CX-P2 >

On Grid

SG150CX >

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Contact support

NOURA TECH

SUNGROW

ON GRID

Type designation	SG125CX-P2
Input (DC)	
Recommended max. PV input power	175 kW
Max. PV input voltage	1100 V
Min. PV input voltage / Startup input voltage	180 V / 200 V
Rated PV input voltage	600 V
MPP voltage range	180 – 1000 V
No. of independent MPP inputs	12
No. of PV strings per MPPT	2
Max. PV input current	360 A (30 A *12)
Max. DC short-circuit current	480 A (40 A * 12)
Max. current for DC connector	20A
Output (AC)	
Max. AC Output power	125 kVA (415 V @ 50 °C) *
Rated AC output apparent power	125 kVA (415 V @ 50 °C) *
Max. AC output current	181.1 A
Rated AC output current(at 230V)	181.1 A
Rated AC voltage	3 / N / PE, 230 / 400 V ; 3 / N / PE, 240 / 415 V
AC voltage range	320 – 480 V
Rated grid frequency	50 Hz / 60 Hz
Grid frequency range	45 – 55 Hz / 55 – 65 Hz
Harmonic (THD)	< 3 % (at rated power)
Power factor at rated power / Adjustable power factor	> 0.99 / 0.8 leading – 0.8 lagging
Feed-in phases / connection phases	3 / 3-N-PE
Efficiency	
Max. efficiency / European efficiency	98.5% / 98.3%
Protection	
Grid monitoring	Yes
DC reverse polarity protection	Yes
AC short circuit protection	Yes
Leakage current protection	Yes
Surge protection	DC Type I + II / AC Type II
Ground fault monitoring	Yes
DC switch	Yes
PV string monitoring	Yes
Q at night function	Yes
Arc fault circuit interrupter (AFCI)	Yes
PID recovery function	Yes
General Data	
Dimensions (W*H*D)	1020*795*360 mm
Mounting Method	Wall-mounting bracket
Weight	87 kg
Topology	Transformerless
Degree of protection	IP66
Corrosion	C5
Night power consumption	< 5 W
Operating ambient temperature range	-30 to 60 ℃
Allowable relative humidity range (non-condensing)	0 – 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m (> 3000 m derating)
Display	LED, Bluetooth+APP
Optimizer	SP600S (Optional)
Communication	RS485 / Optional: WLAN, Ethernet
DC connection type	Evo2 (Max. 6 mm²)
AC connection type	OT / DT terminal (Max. 240 mm²)
Grid Compliance	IEC 62109-1, EN/IEC 61000-6-1/2/3/4, IEC 61727, IEC 62116, EN 50549-1/2, UTE C15-712-1, VDE V 0126-1-1, VDE-AR-N 4105:2018, VFR 2019, NC RfG, G99, UNE 217002, NTS, CEI 0-21 2019,CEI0-16 2019, NRS-097-2-1
Grid Support	Q at night function, LVRT, HVRT, active & reactive power control and power ramp rate control

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NOURA TECH

SUNGROW

ON GRID

Type designation	SG150CX
Input (DC)	
Recommended max. PV input power	210 kWp
Max. PV input voltage *	1100 V
Min. PV input voltage / Startup input voltage	180 V / 200 V
Rated PV input voltage	600 V (380 V / 400 V / 415 V); 720 V (480 V
MPPT voltage range **	180 V – 1000 V
No. of independent MPP inputs	7
No. of PV strings per MPPT	3 / 3 / 3 / 3 / 3 / 3 / 3
Max. PV input current	336 A (48 A * 7)
Max. DC short-circuit current	462 A (66 A * 7)
Max. current for DC connector	30 A
Output (AC)	
Rated AC output power	150 kW
Max. AC output apparent power	165 kVA
Max. AC output current	250.7 A @ 380 Vac ; 240.6 A @ 400 Vac / 415 Vac ; 200.5 A @ 480 Vac
Rated AC output current	227.9 A @ 380 Vac ; 216.5 A @ 400 Vac / 415 Vac ; 180.4 A @ 480 Vac
Rated AC voltage	3 / N / PE, 220 V / 380 V, 230 V / 400 V , 240 V / 415 V , 277 V / 480 V
AC voltage range	320 V - 480 V (380 V / 400 V / 415 V) ; 380 V - 552 V (480 V)
Rated grid frequency	50 Hz / 60 Hz
Grid frequency range	45 Hz – 55 Hz / 55 Hz – 65 Hz
Harmonic (THD)	≤ 1 % (at 400 V AC voltage and rated power) ≤ 2 % (at 480 V AC voltage and rated power)
Power factor at rated power / Adjustable power factor	> 0.99 / 0.8 leading – 0.8 lagging
Feed-in phases / AC connection	3 / 3-N-PE
Efficiency	
Max. efficiency	98.8%
European efficiency	98.2% (380 V / 400 V / 415 V); 98.4 % (480 V)
Protection & function	
Grid monitoring	Yes
DC reverse polarity protection	Yes
AC short-circuit protection	Yes
Leakage current protection	Yes
Surge protection	DC Type I+II / AC Type II
Ground fault monitoring	Yes
DC switch	Yes
PV string current monitoring	Yes
Intelligent DC arc interrupter	Yes
Arc fault circuit interrupter (AFCI)	Yes
PID recovery function	Yes
RSD compatibility ***	Optional
General data	
Dimensions (W * H * D)	1025 mm * 795 mm * 360 mm
Weight	≤ 100 kg
Mounting method	Wall-mounting bracket
Topology	Transformerless
Degree of protection	IP66
Night power consumption	≤ 7 W
Corrosion	C5
Operating ambient temperature range	-30 ℃ – 60 ℃
Allowable relative humidity range (non-condensing)	0 – 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m
Display	LED, Bluetooth + APP
Communication	RS485 / WLAN (optional) / Ethernet (optional)
DC connection type	EVO2 (Max. 6 mm²)
AC connection type	OT / DT terminal (120~400 mm²)
AC cable specification	Outside diameter 18 mm – 38 mm
Grid compliance	IEC EN 62109-1/-2; IEC 60529; IEC 61000-6-1/-2/-3/-4; EN55011; CISPR 11; IEC 63027; EN 50549-1-10/-2-10; IEC 61727; IEC 62116; IEC 61683; EN 50530; IEC 60068-1/-2/-14/-27/-30/-64; IEC/EN 61000-3-11/12; IEC 62920; VDE4110; VDE4120; PSE 2018; NC RFG; TOR Erzeuger Typ A; TOR Erzeuger Typ B; OVE-Richtlinie R25/03.20; G99; CEI 0-16; CEI 0-21; VDE0126; NTS UNE217001/217002; NTS 631; IEC60947.2; PEA; MEA; IEC 62910; DEWA; NRS 097; IRR-DCC-MV
Grid support	Q at night function, LVRT, HVRT, active & reactive power control and power ramp rate control

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NOURA TECH

Inverter

HUAWEI

Type Selection:

On Grid

SUN2000-115KTL-M2 >

On Grid

SUN2000-330KTL-H2 >

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Contact support

NOURA TECH

HUAWEI

ON GRID

Technical Specification	SUN2000-115KTL-M2
Efficiency	
Max. efficiency	98.6% @400 V, 98.8% @480 V
European efficiency	98.4% @400 V, 98.6% @480 V
Input	
Max. Input Voltage [1]	1,100 V
Max. Current per MPPT	30 A
Max. Current per Input	20 A
Max. Short Circuit Current per MPPT	40 A
Start Voltage	200 V
MPPT Operating Voltage Range [2]	200 V – 1,000 V
Nominal Input Voltage	600 V @400 Vac, 720 V @480 Vac
Number of MPP trackers	10
Max. input number per MPP tracker	2
Output	
Nominal AC Active Power	115,000 W
Max. AC Apparent Power	125,000 VA
Max. AC Active Power (cosφ=1)	125,000 W
Nominal Output Voltage	400 V / 480 V, 3W+(N)+PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	166.0 A @400 V, 138.4 A @480 V
Max. Output Current	182.3 A @400 V, 151.9 A @480 V
Adjustable Power Factor Range	0.8 leading... 0.8 lagging
Max. Total Harmonic Distortion	< 3%
Protection	
Input-side Disconnection Device	Yes
Anti-islanding Protection	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Monitoring	Yes
DC Surge Arrester	Type II
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Monitoring Unit	Yes
Smart String Level Disconnector	Yes
Communication	
Display	LED indicators; WLAN adaptor + FusionSolar APP
RS485	Yes
USB	Yes
Smart Dongle-4G	Smart Dongle - 4G / WLAN (Optional)
Monitoring BUS (MBUS)	Yes (isolation transformer required)
General Data	
Dimensions (W x H x D)	1,035 x 700 x 365 mm
Weight (with mounting plate)	93 kg
Operating Temperature Range	-25°C – 60°C
Cooling Method	Smart Air Cooling
Max. Operating Altitude	4,000 m (13,123 ft.)
Relative Humidity	0 – 100%
DC Connector	Amphenol Helios H4
AC Connector	Waterproof Connector + OT/DT Terminal
Protection Degree	IP66
Topology	Transformerless
Nighttime Power Consumption	< 3.5 W
Standard Compliance (more available upon request)	
Certificate	EN 62109-1/-2, IEC 62109-1/-2, EN 50530, IEC 62116, IEC 61727, IEC 60068, IEC 61683
Grid Connection Standards	VDE-AR-N4105, EN 50549-1, EN 50549-2, RD 661, RD 1699, C10/11

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NOURA TECH

HUAWEI

ON GRID

Efficiency	
Max. Efficiency	≥ 99.0%
European Efficiency	≥ 98.8%
Input	
Max. Input Voltage	1,500 V
Number of MPPT	6
Max. Current per MPPT	65 A
Max. Short Circuit Current per MPPT	115 A
Max. PV Inputs per MPPT	4/5/5/4/5/5
Start Voltage	550 V
MPPT Operating Voltage Range	500 V ~ 1,500 V
Nominal Input Voltage	1,080 V
Output	
Nominal AC Active Power	275,000 W[1]
Max. AC Apparent Power	330,000 VA
Max. AC Active Power (cosϕ=1)	330,000 W
Nominal Output Voltage	800 V, 3W + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	198.5 A
Max. Output Current	240.3 A
Adjustable Power Factor Range	0.8 LG ... 0.8 LD
Total Harmonic Distortion	THD_i < 1% (Rated)
Protection	
Smart String-level Disconnection (SSLD)	Yes
Smart Connector-level Detection (SCLD)	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Detection	Yes
DC Surge Arrester	Type II
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Detection Unit	Yes
Communication	
Display	LED Indicators, WLAN + APP
USB	Yes
MBUS	Yes
RS485	Yes
General	
Dimensions (W x H x D)	1,048 x 732 x 395 mm
Weight (with mounting plate)	≤ 112 kg
Operating Temperature Range	-25°C ~ 60°C
Cooling Method	Smart Air Cooling
Max. Operating Altitude without Derating	4,000 m
Relative Humidity	0 ~ 100% (Non-condensing)
DC Connector	HH4SMM4TMSPA / HH4SFM4TMSPA
AC Connector	Support OT / DT Terminal (Max. 400 mm^2)
Protection Degree	IP 66
Anti-corrosion Protection	C5-Medium
Topology	Transformerless
Standards Compliance	
IEC 62109-1/-2, IEC 62920, IEC 60947-2, EN 50549-2, IEC 61683, etc.	

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NOURA TECH

LFP Battery

Brand Selection:

GROWATT

DYNESS

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NOURA TECH

GROWATT

LFP Batter

Type Selection:

HOPE 5.0L-B1 >

HOPE 5.0LW-B1 >

HOPE 16.0LM-A1 >

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NOURA TECH

GROWATT

Datasheet	Hope 5.0L-B1
Battery data	
Nominal voltage	51.2V
Rated capacity	5.12kWh
Usable capacity	5.0kWh
Operating voltage	40 ~ 58.4V
Max. discharging current	100A
Peak discharging current	250A/150ms
Max charging current	100A
General data	
Dimension (W/D/H)	440/480/130.5mm
Weight	43±2Kg
IP protection	IP20
Charge temperature	0℃~+55℃
Discharge temperature	-20℃~+55℃
Features	
DOD	98%
Cycle life	>6000 (25℃, 0.2C,)
Parallel connection	Max.48 packs
Communication port	CAN/RS485
Warranty	5 Years
	CE(EMC)，UN 38.3, MSDS, ROHS

* Nominal charge/discharge current and power derating will occur related to Temperature and SOC

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NOURA TECH

GROWATT

Datasheet	HOPE 5.0LW-B1
Battery data	
Nominal voltage	51.2V
Rated capacity	5.12kWh
Usable capacity	5.0kWh
Operating voltage	40 ~ 58.4V
Max. discharging current	100A
Peak discharging current	750A,5ms
Max charging current	100A
General data	
Dimension (W/D/H)	390*152*620
Weight	<44.5kg
IP protection	IP20
Charge temperature	0℃~+55℃
Discharge temperature	-20~55℃
Installation	Wall-mounted
Features	
DOD	92%
Cycle life	>=6000 (80% DOD,25℃)
Parallel connection	Max.48 packs
Communication port	CAN/RS485
Warranty	5 Years
	IEC62619/CE(EMC)/UN38.3/MSDS/ROHS

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Datasheet	HOPE 16.0LM-A1
System data	
Battery type	LiFePO4
Nominal voltage	51.2V
Normal capacity	16kWh
Usable capacity	15.3kWh
Operating voltage	40~58.4V
Max. Charge/Discharge current	150A/200A
Peak charging/ discharging current	700A/200 us
DOD	95%
General	
Dimension (W/H/D)	440/894/265mm
Weight	120±2kg
Installation	Floor-standing
Altitude	<2000 m
IP Protection	IP20
Operating temperature	Chg: 0~60℃/Dsg: -20 ~ 60℃
Storage temperature*	-20 ~ 60℃
Features	
Cycle life	6000 (0.5C , 80% DOD, @25℃)
Cooling	Natural convection
System connection	Max. 48 pcs in paralle
Communication port	CAN/RS485
Warranty: 5 years / 10 years	Yes /Optional
	CE(EMC), UN38.3, MSDS, ROHS, IEC62619

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NOURA TECH

DYNESS

LFP Battery

Type Selection:

DL5.0C PRO >

POWERBRICK 14.3 >

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NOURA TECH

DYNESS

Model	DL5.0C Pro
Battery Type	$LiFePO_4$
Nominal Battery Energy	5.12kWh
Nominal Capacity	100Ah
Nominal Voltage	51.2V
Operating Voltage	44.8~57.6V
Recomended Charge & Discharge C Rate	0.5C
Maximum Discharge C Rate	1C
Recommended Charge/Discharge Current	50A
Max. Charge/Discharge Current	Charge 75A Discharge 100A
Peak Discharge Current	120A@10min
Depth of Discharge (DOD)	95%
Net Weight	46kg
Dimension[W/D/H]	488/515/150mm
Charging Temp. Range	0~55°C/-20~55°C (with heating function)
Discharging Temp. Range	-20~55°C
Communication	CAN/RS485
WIFI Module	Built-in WIFI module; APP OTA function
Cycle Life*	≥6000 Cycles
Protection Level	IP20
Active fire protection system	Optional Aerosol fire extinguisher
Expansion	Up to 50 units in parallel
Pros	Can be used in both off-grid and hybrid setups, compact design
Certification & Safety Standard	UN38.3/CE-EMC/IEC62619/CE-RED
Compatible Inverters	SMA/Schneider/Victron energy/Ingeteam/Solis/GoodWe/ Growatt/Solplanet/Luxpower/DEYE/Apsystem etc.

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NOURA TECH

DYNESS

Model	PowerBrick
Battery Type	$LiFePO_4$
Nominal Battery Energy	14.336kWh
Nominal Voltage/Capacity	51.2V/280Ah
Recommended Charge/Discharge Current	140A (0.5C)
Max. Charge Current	200A
Max. Discharge Current	200A
Depth of Discharge	95%
Communication	CAN/RS485
Cycle Life *	Unlimited cycles / 10 Years
Protection Level	IP20
Net Weight	114kg
Dimension[W/D/H]	435/233/857mm (No wall -mounted bracket)
Maximum Parallel Modules	50
Charging Temp. Range	0~55°C
Discharging Temp. Range	-20~55°C
WIFI Module	Built-in WiFi module; APP OTA function
Fire Protection System	Optional Aerosol fire extinguisher
Certification & Safety Standard	UN38.3/CE-EMC/IEC62619/GOST-R
Compatible Inverters	SMA/Schneider/Victron energy/Ingeteam/Solis/GoodWe/Growatt/Soplanet/SOFAR/SAJ/DEYE etc.

NOURA TECH

Soilling Loss Measurement

NT-SMC01

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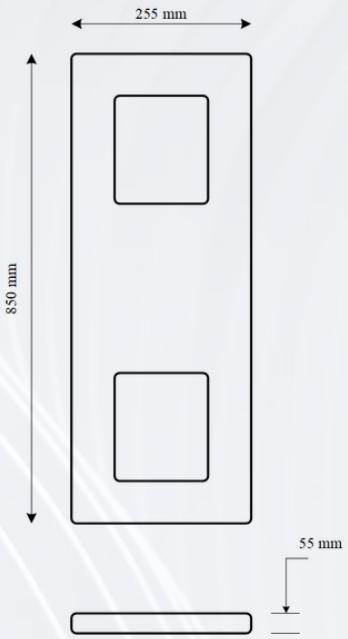
- A precision instrument for measuring performance loss in solar panels caused by dust and pollution
- Locally designed with the ability to compare clean and polluted reference panels
- Equipped with self-cleaning reference cell, Wi-Fi and RS-485 connectivity
- Fast installation and stable operation in solar power plants

SPECIFICATIONS

Soiling Measurements	• Daily soiling loss (% of daily insolation loss) • Soiling rate (moving average, % loss/day) • Soiling ratio (IEC standard 61724-1) • Transmission loss (%, instantaneous)
Irradiance	0 - 2000 W/m2, ±0.5%, temperature correction
Power and Battery	Solar powered, 3000 mAh extended temperature Lithium-Ion chemistry
Data Connection	Modbus RTU (over RS-485)
Data Retrieval	WiFi (Password Protected), Modbus (Micro SD Archiving Available for 10 Years)
Reference Cell	Polycrystalline cell, solar glass with standard ARC coating, white backsheet, EVA encapsulant
Self-Calibration	Easy 1x / year, on-site, OTA or local Modbus. No off-site lab calibration required.
Mechanical Load Rating	+/- 2400 Pa for wind +5400 Pa for snow loading
Enclosure IP Rating	IP66
Cleaning System	1x SS spray nozzles, 60psi max, 100 Lit. reservoir with pump available (Wash Extension accessory)
Mounting Holes	(6) 1/4"-20 brass inserts
Dimensions	850 x 255 x 55 mm (L x H x D)
Weight	15 kg
Electronic Temp. Range	-20°C to +75°C
Warranty	3 Years
Accessories	• Wash Extension with Tank Level Sensor • Purlin Bracket Kit



- Preventing up to 40% efficiency loss in panels due to pollution
- Increasing economic lifespan and reducing panel surface erosion through optimized cleaning intervals
- Smart maintenance management for solar power plants by recording and analyzing production data
- Suitable for industrial, megawatt-scale, and research projects
- Accurate, reliable, and consistent performance compliant with IEC724-1 standard

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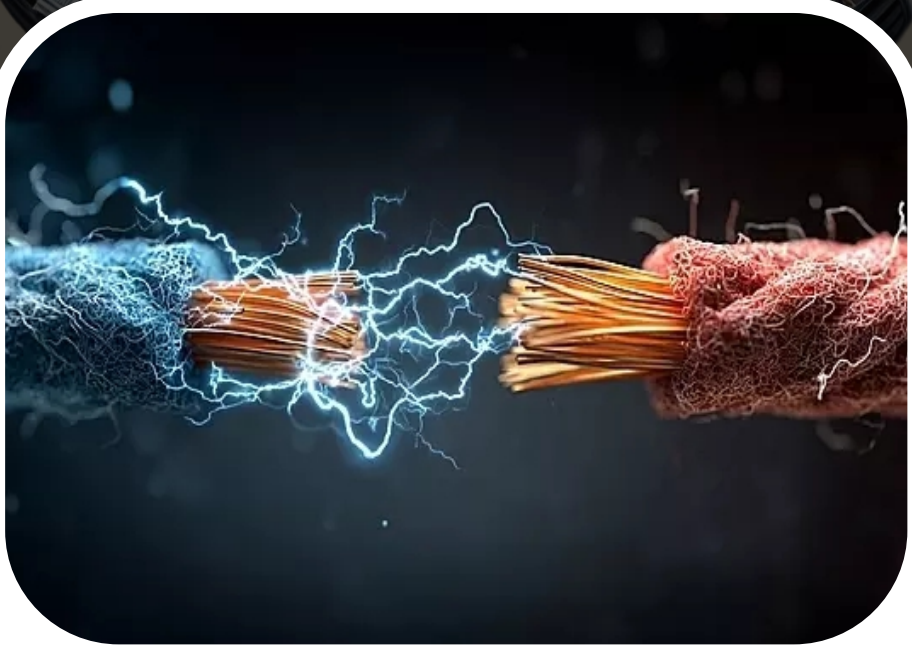
NOURA TECH

DC Cable



JINQISOLAR

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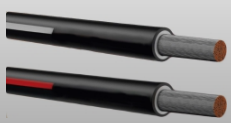
NOURA TECH

Cable JINQISOLAR

Type Selection:



JINQISOLAR 1x4mm^2 >

JINQISOLAR 1x6mm^2 >

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IEC 62930 1x4.0 mm^2
DC 1500V XLPO/XLPO

Conductor	Stranded tinned copper (IEC 60228 Class 5) 56/0.28mm (mix0.27mm max0.29mm
Stranded OD	2.46 mm
Insulation	Halogen free crosslinked polyolefin Color: black
ID	4.0±0.15mm
Sheath	Halogen free crosslinked polyolefin Color: black/Red
OD	5.7±0.2mm
Marking	TÜV SÜD IEC62930 62930 IEC 131 1×4mm2 DC1500V HALOGEN FREE LOW SMOKE JINQI SOLAR PTE. LTD. B 132886

1x4.0 mm^2 SOLAR DC CABLE

Maximum resistance of conductor at 20℃	≤5.09Ω/KM
Insulation resistance at 20℃	≥709 MΩ·Km
Insulation resistance at 90℃	≥0.709MΩ·Km
Voltage test of finished cable	AC 6.5KV 5min,No break
DC Voltage test of insulation	1800V, 240h (85℃ , 10g/LNacl) No break
Tensile strength of insulation	≥8Mpa
elongation of insulation	≥125%
Tensile strength of sheath	≥8Mpa
elongation of sheath	≥125%
Shrinkage resistant	≤2%
Acid and alkali resistant	IEC60811-404
Ozone resistant	IEC60811- 403/EN50396-8.1.3
UV resistant	IEC 62930-Annex E
Dynamic penetrate force	IEC 62930-Annex D
-40℃,16h) Winding at low temperature	IEC 60811-504
-40℃, 16h) Impact at low temperature	IEC 60811-506
Fire performance	IEC60332-1-2
Cland Br Content	IEC 62930
Thermal endurance Test	IEC 60216-1,IEC 60216-2, TI120

Halogen Free Cable For Photovoltaic Equipment

Solar Application

Rating voltage	IEC：DC1500V
Working temperature	-40~90℃
Max. conductor temperature	120℃
Short circuit temperature	250℃ @ 5S
Bending radius	6×D
Life Period	≥25 years

Current Rating Ambient Temperature: 30℃

Installation Method	Free in air	On surface without opposite contact	On surface without opposite contact
Current rating	57A	54A	45A

IEC 62930 1x6.0 mm² DC 1500V XLPO/XLPO

Conductor	Stranded tinned copper (IEC 60228 Class 5) 84/0.28mm (mix0.27mm max0.29mm)
Stranded OD	2.96 mm
Insulation	Halogen free crosslinked polyolefin Color: black
ID	4.6±0.15mm
Sheath	Halogen free crosslinked polyolefin Color: black/Red
OD	6.3±0.2mm
Marking	TÜV SÜD IEC62930 62930 IEC 131 1×6mm2 DC1500V HALOGEN FREE LOW SMOKE JINQI SOLAR PTE. LTD. B 132886

1x6.0 mm² SOLAR DC CABLE

Maximum resistance of conductor at 20℃	≤3.39Ω/KM
Insulation resistance at 20℃	≥610 MΩ·Km
Insulation resistance at 90℃	≥0.610 MΩ·Km
Voltage test of finished cable	AC 6 5KV 5min, No break
DC Voltage test of insulation	1800V, 240h (85℃, 10g/LNacl) No break
Tensile strength of insulation	≥8Mpa
elongation of insulation	≥125%
Tensile strength of sheath	≥8Mpa
elongation of sheath	≥125%
Shrinkage resistant	≤2%
Acid and alkali resistant	IEC60811-404
Ozone resistant	IEC60811- 403/EN50396-8.1.3
UV resistant	IEC 62930-Annex E
Dynamic penetrate force	IEC 62930-Annex D
-40℃,16h) Winding at low temperature	IEC 60811-504
-40℃, 16h) Impact at low temperature	IEC 60811-506
Fire performance	IEC60332-1-2
Cland Br Content	IEC 62930
Thermal endurance Test	IEC 60216-1,IEC 60216-2, TI120

Halogen Free Cable For Photovoltaic Equipment

Solar Application

Rating voltage	IEC：DC1500V
Working temperature	-40~90℃
Max. conductor temperature	120℃
Short circuit temperature	250℃ @ 5S
Bending radius	6×D
Life Period	≥25 years

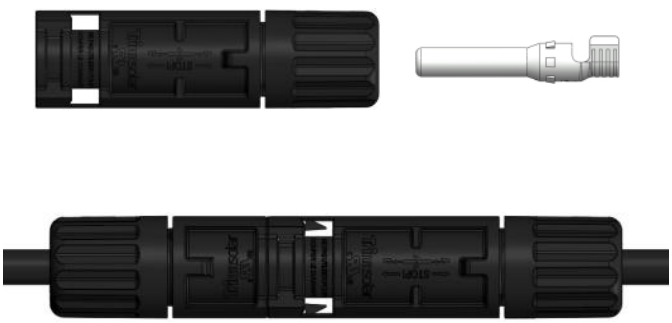
Current Rating Ambient Temperature: 30℃

Installation Method	Free in air	On surface without opposite contact	On surface without opposite contact
Current rating	72A	69A	58A

Approval： IEC62930

NOURA TECH

Connector



Trinasolar

View Specifications

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TS4 Plus Connector Specifications

Product Name	TS4 Plus
Certified name	TS4-cd (c=1; d=1 or 2)
Rated voltage	IEC 1500V&UL 1500V
Rated current @IEC（85℃）	41A（4.0mm² / 12AWG） 46A（6.0mm² / 10AWG）
Rated impulse voltage	16KV
Ambient temperature range	-40℃~+85℃
Contact resistance	≤0. 5mΩ
Application degree	Class A
Protection class	Class Ⅱ
Pollution degree	2
Degree of protection	IP68（1m，1h）mated IP2X unmated
Flame class	UL94-V0
Insulation material	m-PPE/PA
Contact material	Copper, Tin-plated
Type of termination	Crimping
Locking system(UL)	Locking type
TUV,IEC62852	R50508240/R50385924
UL,UL6703	E486009

Product Selection Form

Type	P/N	Cable OD	Conductor Cross Section		Tool P/N		
		mm	mm²	AWG	Wire Stripper P/N	Rivet Plier P/N	Spanner P/N
TS4 Plus-F1	7A004669	4.7-6.0	4.0/6.0	12/10	7A001039	7A001038	7A004541
TS4 Plus-M1	7A004670						
TS4 Plus-F2	7A004671	5.6-6.8					
TS4 Plus-M2	7A004672						
TS4 Plus-F3	7A004673	6.0-7.2					
TS4 Plus-M3	7A004674						

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Structure

FIXED BRACKET

View Specifications

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Easy Adjustment	• **Push-Rod Operation · Quick Locking.** Ground push-rod operation allows fast adjustment and reliable locking.
Stable Structure	• **Triangular Locking · Superior Wind Resistance.** Triangular stable structure provides wind resistance comparable to fixed mounts.
Reliable Locking	• **Pin Fastening · No Loosening Risk.** Mechanical pin locking ensures no loosening.
Easy Operation & Maintenance	• **Durable · Low Maintenance.** Simple and durable design reduces O&M costs.

System Parameters

Tracking Type	2X14
Tilt Adjustment Range	15°-50°
Drive Type / Quantity	4 Push Rods
Protection Strategy	E-W: 5° (max.); N-S: Unrestricted
Foundation Options	PHC pile
Structural Materials	Hot dipped galvanized/ZAM high-strength steel
Design Wind Load	0.45KN/m² 25years
Design Snow Load	0.46KN/m² 25years
Module Compatibility	Compatible with all types of module

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MV Station solis Model Selection:

Solis-6500-MV >

Solis-4550-MV >

Solis-9100-MV >

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DATASHEET Solis-6500-MV

Models	Solis-6500-MV
LV panel	
MCCB specification	400 A / 800 Vac / 3P, 10 × 2 pcs
ACB specification	3200 A / 800 Vac / 3P, 1 × 2 pcs
Connection form with transformer	Copper busbar
Transformer	
Transformer type	Oil immersed
Rated output power	6500 kVA @ 40°C
Max. output power	7000 kVA @ 30°C
LV/MV voltage	0.8 kV / 10 - 35 kV
Max. input current	2526 A × 2
Tapping on HV	±2 × 2.5%
Vector group	Dy11y11
Frequency	50 Hz / 60 Hz
Cooling type	ONAN
Impedance	8% (± 10%)
Oil type	Mineral oil (Optional: plant oil)
Winding material	Al / Al (Optional: Cu / Cu)
Insulation class	A
Connection form with MV switchgear	Cable
MV Switchgear	
Type of insulate	SF6 (Optional: SF6-Free)
Rated voltage	12 - 40.5 kV
Rated current	630 A
Internal arcing fault	20 kA / 1 s
Qty of feeder	3 feeders
Protection	
LV surge protection	AC type I + II
AC input protection	Circuit breaker
Transformer protection	Oil-temperature, oil-level, oil-pressure
Fire protection	Smoke detection, emergency lighting
General Data	
Dimensions (W H D)	6058 × 2896 × 2438 mm
Approximate weight	21 T
Operating ambient temperature range	-25 ~ +60°C
Max. operation altitude	2000 m
Auxiliary power supply	5 kVA / 230 V (Optional: max. 50 kVA)
UPS	1 kVA 30 min (Optional: max. 2 kVA 2h)
Degree of protection	IP54
Anti-corrosion Class	C4-H (Optional: C5-M)
Allowable relative humidity range	0 - 95%
Communication	RS485, Ethernet, Optical fiber
Compliance	IEC 60076, IEC 62271, IEC61439

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solis

DATASHEET Solis-4550-MV

Models	Solis-4550-MV
LV panel	
MCCB specification	400 A / 800 Vac / 3P, 14 pcs
ACB specification	4000 A / 800 Vac / 3P, 1 pcs
Connection form with transformer	Copper busbar
Transformer	
Transformer type	Oil immersed
Rated output power	4550 kVA @ 40°C
Max. output power	4900 kVA @ 30°C
LV/MV voltage	0.8 kV / 10 - 35 kV
Max. input current	3536 A
Tapping on HV	±2 × 2.5%
Vector group	Dy11
Frequency	50 Hz / 60 Hz
Cooling type	ONAN
Impedance	8% (± 10%)
Oil type	Mineral oil (Optional: plant oil)
Winding material	Al / Al (Optional: Cu / Cu)
Insulation class	A
Connection form with MV switchgear	Cable
MV Switchgear	
Type of insulate	SF6 (Optional: SF6-Free)
Rated voltage	12 - 40.5 kV
Rated current	630 A
Internal arcing fault	20 kA / 1 s
Qty of feeder	3 feeders
Protection	
LV surge protection	AC type I + II
AC input protection	Circuit breaker
Transformer protection	Oil-temperature, oil-level, oil-pressure
Fire protection	Smoke detection, emergency lighting
General Data	
Dimensions (W*H*D)	6058 × 2896 × 2438 mm
Approximate weight	16.6 T
Operating ambient temperature range	-25 ~ +60°C
Max. operation altitude	2000 m
Auxiliary power supply	5 kVA / 230 V (Optional: max. 50 kVA)
UPS	1 kVA 30 min (Optional: max. 2 kVA 2h)
Degree of protection	IP54
Anti-corrosion Class	C4-H (Optional: C5-M)
Allowable relative humidity range	0 - 95%
Communication	RS485, Ethernet, Optical fiber
Compliance	IEC 60076, IEC 62271, IEC61439

NOURA TECH

solis

DATASHEET	Solis-9100-MV
Models	**Solis-9100-MV**
LV panel	
MCCB specification	400 A / 800 Vac / 3P, 14 × 2 pcs
ACB specification	4000 A / 800 Vac / 3P, 1 × 2 pcs
Connection form with transformer	Copper busbar
Transformer	
Transformer type	Oil immersed
Rated output power	9100 kVA @ 40°C
Max. output power	9800 kVA @ 30°C
LV / MV voltage	0.8 kV / 10 - 35 kV
Max. input current	3536 A × 2
Tapping on HV	±2 × 2.5%
Vector group	Dy11y11
Frequency	50 Hz / 60 Hz
Cooling type	ONAN
Impedance	9.5% (±10%)
Oil type	Mineral oil (Optional: plant oil)
Winding material	Al / Al (Optional: Cu / Cu)
Insulation class	A
Connection form with MV switchgear	Cable
MV Switchgear	
Type of insulate	SF6 (Optional: SF6-Free)
Rated voltage	12 - 40.5 kV
Rated current	630 A
Internal arcing fault	20 kA / 1 s
Qty of feeder	3 feeders
Protection	
LV surge protection	AC type I + II
AC input protection	Circuit breaker
Transformer protection	Oil-temperature, oil-level, oil-pressure
Fire protection	Smoke detection, emergency lighting
General Data	
Dimensions (W × H × D)	6058 × 2896 × 2438 mm
Approximate weight	23.5 T
Operating ambient temperature range	-25 ~ +60°C
Max. operation altitude	2000 m
Auxiliary power supply	5 kVA / 230 V (Optional: max. 50 kVA)
UPS	1 kVA 30 min (Optional: max. 2 kVA 2h)
Degree of protection	IP54
Anti-corrosion Class	C4-H (Optional: C5-M)
Allowable relative humidity range	0 - 95%
Communication	RS485, Ethernet, Optical fiber
Compliance	IEC 60076, IEC 62271, IEC61439

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Inquiry and purchase order

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